

APPLICATION OF BLENDED LEARNING IN CHINESE PINYIN LEARNING OF PRIMARY 4 STUDENTS AT

A PRIVATE SCHOOL IN BANGKOK

BY

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² มาวิทยาลัยรังสิ

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5907047 :MAJOR: BILINGUAL EDUCATION; M.ED. (BILINGUAL EDUCATION) **KEYWORDS :BLENDED LEARNING IN CHINESE PINYIN, BLENDED** LEARNING, CHINESE PINYIN LEARNING, PRIMARY **4 STUDENTS** SHUHEYI : APPLICATION OF BLENDED LEARNING IN CHINESE LEARNING OF PRIMARY 4 STUDENTS AT A PRIVATE SCHOOL IN BANGKOK THESIS ADVISOR :ASST. PROF. SUPINDA LERTLIT, ED. D., 130P

Technology and mobile devices have become an increasingly extreme part of our daily lives, so much so that it is only natural to be able to take that same technology and utilize it inside the classroom. Thus, this paper explored the application of blended learning in Chinese Pinyin learning of Primary 4 students at a private school in Bangkok. The research was conducted in the first semester of the private school in Bangkok in 2017. Population of this study comprises two groups of Chinese Pinyin learning of Primary 4 students which were 42 students. A random sampling was used to select two groups for experimental and control group. The study used quantitative design. The research instruments were pretest and posttest as well as a set of questionnaires to gather the data. The statistics used for data analysis were Mean Scores, Standard Deviation and dependent-paired data analysis. The findings of this research revealed that the Chinese Pinyin learning achievements of the Primary 4 students were taught by using Blended Learning approach tested better than the students were taught with the traditional approach. The posttest Mean Scores of the experimental group was 24.54 and the control group was 15.90. Moreover, the findings revealed the improved average score of the pretest to posttest that the experimental group was 20.50% higher than the control group. In addition, the findings showed that the students were satisfied with Chinese Pinyin learning through using the Blended Learning at high level (90.7%) in this study.

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Within the 21st century, China has been noted to have more power and influence worldwide. With the enhancement of China's comprehensive universal power, the the growth of internationalization of the Chinese language is an inevitable trend. The worlds Chinese education is currently impeded by the shortage of Chinese teachers', difficulties in sharing the high quality Chinese resources and the obsolescence of teaching means and methods (Xiong, Sang and Pan, 2013). The beginning of the 21st century has seen an explosion of interest in learning Modern Standard Chinese at both college levels and secondary-school levels of education in the world (Ye, 2011). Throughout China, Pinyin provides the Mandarin pronunciation of Chinese characters, which promotes the development of Chinese children's reading skill set (Zhao, 2009). Researchers have found that, in learning Chinese, Pinyin can help Chinese learners improve their ability to read and speak Chinese, which confirms the universality of Pinyin's role and has also been said to aid in developing the phonological awareness of Chinese learners (Zhao, 2009). Furthermore, Pinyin also has the possibility to facilitate the cross-language transfer of phonological awareness from Chinese to English and vice versa.

From information gained through conducted research, Pinyin was found to be helpful for Chinese learners in Learning Chinese characters (Lee and Kalyuga, 2011). Pinyin represents one of the phonetic systems used for supporting learning Chinese. The pronunciation information conveyed by characters is limited due to its idiographic nature, and it is therefore conventionally believed that pinyin should accompany characters because it provides accurate pronunciation of Chinese characters. In practice, pinyin is often used simultaneously with its auditory pronunciation, and has furthermore been noted that learners' familiarity with Mandarin and pinyin could effectively increase working memory capacity to allow processing visual pinyin (Lee & Kalyuga, 2011).

The increased use of technology in language education of instructional design and technique for language learning is of rapidly growing importance according to (Chung, 2002). The rapid advancement of information and communications technology have received a great deal of attention in the field of education (Ain, Abdullah & Tajuddin, 2017). During the early stage of learning a new language, it is necessary to concentrate on a limited range of levels and focus on the acquisition of vocabulary. The primary purpose of Chinese Pinyin in Chinese schools was to teach mandarin (Fish, 2012) as well as represent Chinese characters and express the sounds in the Chinese language more easily. Chinese Pinyin is also the common way to type Chinese characters on the computer and mobile devices. It is the basic skill of learning Chinese mandarin, which is why it was the most urgent task for teachers to explore effective Pinyin teaching methods. However, the difficulty of Pinyin teaching is well known, Pinyin is comprised of just a few symbols and rules, and has no practical significance. Pure Pinyin teaching is often said to be both abstract and boring in its execution. Therefore, the economic factor has made Chinese the most pursued of all world languages to be learned (Ain, Abdullah & Tajuddin, 2017).

Learners use the Blended Learning in Chinese Pinyin differently to the traditional learning and teaching mode of learning Chinese as a foreign language (Zhang and Li, 2011). It provides students with a variety of Pinyin learning resources, to improve the efficiency of students, to create a more rich language communication environment and stimulate students more sensory input (Wang, 2010). Chinese language learning applications have been developed and made available in different languages and on different mobile devices (iOS or Android system) in order to allow one to learn Chinese. The main categories of the Chinese language learning

applications on mobile devices are as follows: structured lessons, dictionaries, flashcards, games, Chinese Pinyin learning, writing Chinese characters, and using video or audio lessons. These mobile apps have been said to be mostly for beginners to intermediate level learners (Chuang, 2016). Blended Learning has already existed in traditional teaching, but until 2011 foreign e-learning into low point, people began to reflect on the pure technical environment, a study of Blended Learning was gradually increased (Tan & Zhang, 2011).

Individuals learning Chinese often ask how they can find more effective Chinese Blended Learning materials, want to download the learning materials on to their mobile devices. These learners want their mobile devices to be used for more than just communication and entertainment, but also for learning Chinese in or out of classroom (Tseng, Lu and Hsu, 2007), however, the majority of foreign language is taught face-to-face (Hwa, Weei and Len, 2012), literature on Blended Learning approach with Chinese language as the second language classroom in Thailand is sparse and little is known about how the effect during the Blended Learning approach in the Chinese Pinyin learning classroom. This research aimed to investigate the Blended Learning in the Chinese Pinyin learning environment to study how effect in the Chinese Pinyin learning. In addition, the research also aimed to investigate the Chinese classroom through the Blended Learning environment in terms of learner satisfaction. The researcher wants these studies to promote deep Blended Learning strategies in Chinese Pinyin and Chinese learning in the world (Liang, 2014).

1.2 Significance of the Problem

Pinyin in Chinese mandarin consists mostly of Chinese initials, Chinese finals and Chinese tones. The Chinese initials are the consonant in Chinese Pinyin. There are 21 initial consonants in Chinese, as well as w and y. They are called Chinese initials because, unlike consonants in English, they appear only at the beginning of a Pinyin. Pinyin can begin with one or two consonants, but each letter or consonant combination represents only one sound. The Chinese finals are the vowels in Chinese Pinyin. They are called finals because, each Pinyin ends with a vowel or two vowels. In Chinese Pinyin each Pinyin has only one tone. Before the researcher taught the Chinese Pinyin in the selected private school the students could not know how to combine the Pinyin initials, finals or tones to get the sounds of Chinese Pinyin. The following Table 1.1 shows the scores of Primary 4 in Chinese Pinyin learning from the last academic semester in the private school.

Four Skills Assessment Before Final Student# **Total Scores** 20 Listening 5 Speaking 5 Reading 5 % Writing 5 3.5 1.5

 Table 1.1 Chinese Learning Achievement of Four Skills Assessment in Semester 2:

 Academic Year of 2016-2017

Source: Data were collected by the Author who teaches Chinese in Sarasa Wited Saimai School and these Data were not be Published in Semester 2: Academic Year of 2016-2017

The table 1.1 lists the four skills of an assessment to get the learning achievement in Chinese learning for Primary 4 students. From this table, the researcher found that most students had got low scores in almost every skill in Chinese learning (most of them got only 40%). The Blended Learning in Chinese Pinyin has a substantial impact in Thailand. Chinese Pinyin is the basic knowledge of the language system that will help a learner, whether a Chinese or a foreign student, to learn Chinese mandarin (Chuang, 2016). Due to these finding, the researcher used the application of Blended Learning in teaching Chinese in an academic semester to improve Chinese Pinyin learning achievement in the classroom of Primary 4 students in a private school in Bangkok.

1.3 Significance of the Study

Blended Learning in teaching Chinese as a second language has a bright future (Tham, K. and Tham, C., 2011). It is low cost and has said to be able to greatly arouse students' enthusiasm for learning Chinese (Li, 2012). It can greatly improve the efficiency of teaching Chinese as a second language and can quickly promote individuals both in Thailand and even the global process of Chinese teaching reform. Through this study, the researcher found out that Blended Learning in Chinese has some significance (Li, 2012) as follows:

1) The Blended Learning in Chinese teaching helped the students to improve their learning achievement.

2) The Blended Learning in Chinese learning helped the parents to assist their children in choosing the most effective software of Chinese learning on the mobile devices.

3) The study motivated teachers to use Blended Learning as an alternative teaching method, whereby bringing a shift in teaching method from teacher-centered to student-centered.

4) The study gave Thai Chinese learners more learning opportunities on mobile devices.

1.4 Research Objectives

The purposes of this study are as follows:

1) To find out the learning achievement of Blended Learning approach compare to traditional technology in Chinese Pinyin learning of Primary 4 students at a private school in Bangkok.

2) To find out the satisfaction of Primary 4 students in learning Chinese Pinyin through Blended Learning.

1.5 Research Questions

There are two questions of the research as follows:

1) What is the learning achievement of Blended Learning approach compare to traditional technology in Chinese Pinyin learning of Primary 4 students in learning Chinese Pinyin?

2) Will the students in Experimental Group be satisfied with the application of Blended Learning in Chinese Pinyin learning?

1.6 Research Hypothesis

The hypothesis of the research is as follows:

1) The learning achievement of the students taught by using Blended Learning is higher than that of the students taught with the traditional approach.

2) The students taught by Blended Learning will be satisfied with Chinese Pinyin learning using the application of Blended Learning.

1.7 Scope of the Study

1.7.1 Population

The population of this study included 72 students of Primary 4 of an international program in a private school in Bangkok. The 48 students were divided into 2 sections, 24 students for Experimental Group and 24 students for Control Group. The 48 students comprised of 24 male and 24 female students, ages from 8-10 years old.

1.7.2 Sample Election Method

The sample random sampling was used to get one section as Experimental Group. And the other as Control Group by drawing the students' numbers on the all small pieces of papers.

1.7.3 Location of the Study The study we The study was carried out for Primary 4 students enrolled in the international program of a private school in Bangkok in the first semester of 2017 academic year. There are two current programs in the school: the bilingual program and the international program. The students in primary levels in bilingual program are taught Chinese by a Thai teacher, whereas the students in secondary levels in bilingual program are taught by native Chinese speakers. The students in secondary, which from grade 7-12, have learned Chinese in their primary stage. However, these students were not Chinese language learning beginners. Therefore, the students in secondary of the international program and the bilingual program would not be used in this study. The Primary 4 students in the international program are all first-time learners of Chinese Pinyin, and the students must learn Chinese Pinyin in according to their curriculum. Therefore, the researcher chose the international program Primary 4 students for the purpose of this study.

1.7.4 Time Frame

The study was carried out from June to August during the 1st semester of 2017 academic year. The researcher taught Experimental Group and Control Group once a week and spend 12 weeks in this study.

1.8 Terminology

Blended Learning in this study refers to teaching method where students are using mobile devices, Multimedia TV learning and face-to-face learning that takes place

in learning environments in Chinese Pinyin learning in class.

Multimedia TV in this study refers to that is the one kind of the interactive whiteboard which is hanging on the wall of classroom. Teacher can use the TV to connect Samsung tablets with Android Operational System and laptops.

Pretest and Posttest in this study refers to achievement of Primary 4 students in Chinese Pinyin learning in a private school in Bangkok.

Chinese Pinyin in this study refers to learning the system of spelling in Mandarin Chinese using the letters of the English alphabet. The sounds of the language must be mastered through the ear, not the eye in the classroom.

Software of Chinese Pinyin in this study refers to the mobile applications in Google Play applications store from China, and all of them are free. Otherwise, the applications can be used online and offline.

Chinese Time: in this study refers to the textbook was curriculum book from lesson 1 to lesson 4 focus on pronunciation of Chinese Pinyin learning.

1.9 Limitations of the Study

In the Blended Learning Experimental Group, not every student has a mobile device to be used in Blended Learning environment. The researcher has two mobile devices which were used in the classroom. As the students were divided into 4 groups, and each group has 6 students who were using the mobile devices to learn Chinese Pinyin in each class. Therefore, there may be a delay in the data collecting process due to the devices sharing during learning.



CHAPTER 2

LITERATURE REVIEW

Chapter 2 will look at providing the background of Blended Learning approach and Chinese Pinyin learning in the world and will present the literature on which to utilize Blended Learning approach to improve Chinese Pinyin learning of Primary 4 students in a private school in Bangkok.

The outlines that follow will discuss the importance of the Blended Learning approach supporting theories followed by related researchers. The chapter concludes with summary of literature review. The following outline gives rational to this study will be discussed as follows:

- 2.1 Teaching Effectiveness in 21st Century
- 2.2 Teaching Innovation
- 2.3 Internationalization
 - 2.3.1 Blended Learning Approach in the World
 - 2.3.2 Chinese Language Learning Progress in the World
- 2.4 Blended Learning Approach Review
 - 2.4.1 Language Education of Blended Learning Approach
 - 2.4.2 Blended Learning Approach Environment of Language Education
 - 2.4.3 Advantage of Blended Learning Approach
- 2.5 Theoretical of Language Acquisition
 - 2.5.1 Constructivist Learning Theory
 - 2.5.2 Second Language Acquisition (SLA) Theory
- 2.6 Blended Learning Approach in the Classroom
 - 2.6.1 Concept of Blended Learning Approach in the Classroom
 - 2.6.2 The Features of Blended Learning Approach
 - 2.6.3 Blended Learning Approach and Traditional Education

2.7 Student-Centered Learning in the 21st Century

2.8 Chinese Pinyin Learning in the world

2.8.1 Chinese Pinyin Learning Method

2.8.2 Chinese Pinyin' Rules

2.9 Blended Learning Approach in Chinese Pinyin Study

2.9.1 Chinese Pinyin Applications of Blended Learning

2.9.2 Chinese-English Dictionary Applications of Blended Learning

2.1 Teaching Effectiveness in 21st Century

Rapidly developing information technology has brought more and more changes in teaching and learning (Webster and Hackley, 1997) in the 21st century. In the new educational environment, it was said that teachers face more challenges in teaching their teaching practices. Because of this, their teaching strategies, teaching methods and teaching effects need to be effectively evaluated (Coe, Aloisi, Higgins and Major, 2014) in the 21st century. Teaching effectiveness was defined by that which could be able to improve the students' learning achievements using technical teaching approaches. It has been outlined by Coe et al. (2014), who gave six important features of teachers are as following (Coe et al., 2014):

1) Pedagogical content knowledge, which could be able to influence students' achievements strongly.

2) Quality of orders, which could be able to influence students' achievements strongly.

3) Teaching environment in the classroom, which could be able to influence students' achievements moderately.

4) Classroom management, which could be able to influence students' achievements moderately.

5) Teacher beliefs, which could be able to influence students' achievements commonly.

6) Professional behaviors, which could be able to influence students' achievements commonly.

2.2 Teaching Innovation

Innovation was a primary point of differentiation and rivalrous advantage in the increasingly compound and rapidly changing climate of the 21st century. Therefore, in this century, the teachers need to be heedful of the teaching methods that assist the improvement of wanted creativity skills among students. Teaching innovation included technical skills, personal qualities, open-mindedness, social and behavioral skills and collaboration (Lee and Benza, 2015). In addition, teaching innovation and teaching creativity was usually discussed that using sustainable motive force, through courses of different subject areas, etc (Zhang, Liang and Ma, 2012).

2.3 Internationalization

2.3.1 Blended Learning Approach in the World

With globalization and the emergence of Blended learning, the teaching of Chinese as the second language learning (TCSL) has become more important for learners (Shih, 2010). The purpose of Blended Learning approach research was to create a blended online and traditional personal teaching blog for learners. The blended model could contribute to improve learners' learning effect and satisfaction. Most importantly, some of the features of this Blended Learning approach model, for example free access to blogs, easy modification and interesting learning materials, were major factors in motivating students to learn effectively and improve student satisfaction (Shih, 2010). In addition, Blended Learning approach curriculum support an exceptional interesting concentrate on research into the process of Blended Learning approach, focused on digital worlds and gave sound to the learners, testing how the learners understood Blended Learning approach and traditional personal teaching system offered in the curriculum which method was more attractive (Mitchell and Forer, 2010).

Many methods are used in Blended Learning approach in Chinese language teaching to improve learners' learning effects (Ou, 2012). For example, an Online curriculum Teaching Written Business English (TWBE) was one Blended Learning approach in teaching professional German, which was used in the curriculum to improve business English written effects (Hubackova, Semradova and Klimova, 2011). In addition, a Blended Learning approach curriculums used to tourism management learners which named "Translation" and "Chapter and literature of German Speaking Countries" were used to support a virtual learn environment. Hubackova et al. (2011) and his research team used four kinds of approaches to study how Blended Learning approach improve German learning. In this curriculum, the test environment provided by the web course tool was used by researchers (Hubackova et al., 2011).

Immediately after, in Europe, a using of the source-based learning management programme (one kind of Blended Learning) named ILIAS has obtained a massive impact in educational institutions. At the Passsau University, a 2-year Chinese language learning program used this learning management programme (Müller, 2012). Müller (2012) also described that the development process and learners' experience through using this learning management programme that learners in Chinese learning developing process and assessment of curriculum.

At the same time, the MCDCL (Mid-Career Development Chinese Language) learning was a language programme supported by a British Inter-university which had a China Centre programme (BICC). For example, the learners through 1 year of this programme, and all 7 learners acted the valuation were gained a license of achievement successfully completed the demands of the courses (Hu, 2012) which includes four characters as following: 1) Participant – learners were able to present at least two thirds of the traditional Face-2-Face classes (Hu, 2012).

2) Curriculum Work – learners were able to achieve eighty percent of the elearning homework to get a satisfactory criterion (Hu, 2012).

3) Examinations – a written and a spoken – examinations were set in the third centralized week of the Face-2-Face classes (Hu, 2012).

4) Essay – at the end of this Chinese curriculum, a based topic of essay in Chinese was able to be submitted to institutor (Hu, 2012).

As the exploration goes, an impaction of Blended Learning through different learning environment and through different groups of learners with different kinds of teaching individualized could was able to support better information of the impact of this method. This learning manner was also able to be according to more implementation of extra technologies. Hence, in an online room, learners were able to discuss in this room. In addition, a lecture interaction quiz was used in this program, to value the Blended Learning approach match with learners and their capabilities (Delaney, Mcmanus and Ng, 2010).

Asian governments are supporting information communication technology and Blended Learning approach development in the various sectors. As the technology becomes more widely available and affordable and where there is need and opportunity for change, Asian providers are taking every advantage of digitization (Latchem and Jung, 2009). Some open universities such as Open University Malaysia and the Palestinian AI-Quds Open University are currently using learning or curriculum management systems to enable their learners to assess the programme and download lecture materials of curriculum, deliver their homework, receive feedback, and interact with the teachers and other classmates (Tham, K. and Tham, C., 2011). An on-line programme was used in Xian Jiaotong University, to value the benefits of this programme in Xian province in China (Tham, K. and Tham, C., 2011). It is well known, Chinese education programme has a big different character that is still based on teacher-centered system and exam-driven model on values that determines a higher dependency education phenomenon. Therefore, the self-learning of the essential in Blended Learning was limited at recent years in China (Tham, K. and Tham, C., 2011). For example, Anadolu University of Turkey and Ramkhamhaeng University of Thailand are not alone in providing their curriculum texts online. Anadolu is making its TV programmes available as streaming video, nor the Korea National Open University in delivering its radio programmes as MP3 files (Latchem and Jung, 2009).

In 2008 annual reports, the rate of website education and multimedia education was 51% of 2007 in Japan University (Tham, K. and Tham, C., 2011). Among 192 countries, Singapore ranked 23rd under the study of UN e-Government Readiness Index in 2008 and ranked first among 34 surveyed countries conducted by Waseda University in International e-Government Index in 2009. However, the support given by the Singapore government, the Blended learning is pervasive, according to Tan et al, it had 28,000 students engaged the Blended Learning environment in Singapore (Tham, K. and Tham, C., 2011).

Two rapidly emerging technologies in Asia are Blended device and WIMAX programme which provides wireless data over great distances as an alternative learning way for subscribers in wired learning. Asians have rapidly accepted the use of Blended devices, Asia has 2.7 billion Blended devices users that were almost one fourth in the world and they also were the fastest growth group in the world (Latchem and Jung, 2009).

2.3.2 Chinese Language Learning Progress in the World

Westerners started learning Chinese as early as the 16th century (Zhao, 2015). In the 16th century, the Europeans (especially Jesuits) began to learn and study the Chinese. Into the 19th century, some European schools set Chinese courses from the missionaries as Chinese language expertise to interpret Chinese (Starr, 2009). Decades after WWII, the Chinese language teaching in the USA became the central area in the world. There were many pedagogies and curriculum books of Chinese learning presented in America (Starr, 2009). Until in the 1970s and 1980s, in UK, when pedagogical objections to USA curriculum books leaded to locally production, for example, T' ung and Pollard' s Colloquial Chinese, which were mainland Chinese textbook, and their advantages were price and authenticity (Starr, 2009).

The Confucius Institute System or the Confucius Institute programme (Kong Zi Xue Yuan) was launched by the OCLCI (Office of Chinese Language Council International). This programme is usually known both in China and oversea by its abbreviation "Hanban" (Starr, 2009). The Hanban also promotes strong impetus to the Chinese language proficiency test called "HSK" which is equivalent to TOEFL. The Hanban office offered three manners of operation for Kongzi Xueyuan: 1) the first kind of manner is a full capital operation by Beijing Head Office; 2) the second kind of manner is jointing investment with local partners; and 3) the third kind of manner is wholly locally ran institutes licensed by the Beijing Kongzi Xueyuan (Starr, 2009). However, most European KongZi XueYuan were set a partnership between foreign universities (Starr, 2009). From a strategic point of view, the localization of the KongZi XueYuan's network was able to set in Asia included Japan, South Korea and Thailand characteristic highly (Starr, 2009).

2.4 Blended Learning Approach Review

2.4.1 Language Education of Blended Learning Approach

Blended Learning approach has become a popular form of education. The term Blended Learning approach means integrating the online and face-to-face formats to create a more effective learning experience (Al Zumor, Al Refaai, Eddin and Al Rahman, 2013). It means numerous things to numerous people, even in the online education classroom. It refers to as both blended and mixed learning, and there was little or no difference in the meaning of these two words to most teachers (Watson 2008). The Blended Learning approach to teaching uses the advantages of the traditional teaching approaches, digital and guidance of teachers can lead to a rise the students' enthusiasm for learning, together resulting in a highly efficient teaching approach (Al Zumor et al., 2013) see above

Moreover, Rabin (2014) also agreed that Blended Learning should consist of mixed teaching technologies in the classroom as well as realistic practice. It has also been described as learning using a lot of instructional manners and as being the general combine with pedagogical approaches that using a mix of different learning manners with or without technology (Torrisi, 2011). Commonly, the definition of Blended Learning approach is the combination of traditional Face-to-Face teaching and technologies (Oh and Park, 2009).

In Indian, the Blended Learning approach white paper of NIIT Company says that Blended Learning approach should be defined as a way of learning which includes face-to face, real time Blended Learning approach and self-paced learning. Micharel Orey defined the Blended Learning approach from the perspective of three groups of the learners, the teaching designers and the teaching managers. From the perspective of the learners, Blended Learning approach refers to unique ability to choose from all available devices, tools, technologies, media and teaching materials to that are available to them and match with their previous knowledge and learning styles, so as to help them achieve their learning goals. From the perspective of the teaching designers, Blended Learning approach is a unique and efficient way of organizing and distributing available equipment, tools, technology, media and teaching materials to achieve their teaching goals. From teaching managers, Blended Learning approach is used to organize and distribute all valuable equipment, technology, media and teaching materials as economically as possible to achieve the goal of teaching (Tan and Zhang, 2011). Blended Learning approach occupies an increasingly prominent place in education (Cela, Sicilia and Sánchez, 2015). It provides the learner with a rich virtual network and creates synergies through interactions with other members of the network. Desmond Keegan says that Blended Learning approach, digital learning and Blended learning are the three parts of the distance education (Keegan, 2015). Blended learning is based on Blended internet technology, and with the help of portable Blended devices to effectively present available Blended Learning approach content. This new way of learning and interaction means that learners and teachers, teachers and teachers and also learners and learners will have communication with each other through multiple platforms and channels.



Figure 2.1 Definition of Blended Learning Approach Source: Staker and Horn,2012

In the Figure 2.1, Staker and Hom gave Blended Learning approach a meaning that it was a formal education programme. In this education programme, the learners, at least in part, should go through online learning and complete the tasks set of school. In this programme, designers should consider the content of instruction and web net speed in the school (Staker and Horn, 2012). They explained that "supervised" and "away from home", in the Figure 2.1, was the new manner to differentiate from the

normal learners learning regular on-line in the school and a free time based learners (Staker and Horn, 2012).

2.4.2 Blended Learning Approach Environment of Language Approach

Blended Learning approach is a distance education method which uses a combination of available resources and technology as well as traditional education and teaching methods. The Blended Learning approach environment can be designed as diachronic and synchronic learning places (Isiguzel, 2014). There is no space and time limitedness available in diachronic education activities applied in diachronic environments. For this reason, determining the most proper place and time to take part in the activities becomes important for the learner. Documents, web sites, based modules of web and computer, tests and surveys, online learning groups and discussion groups can be counted as broad used diachronic education mediums. Synchronic learning activities offer learner real-time education process as in face-to-face environments. Blended Learning approach has contribution in providing learner centered learning environments and supports the progress of autonomous learner skills (Isiguzel, 2014). Figure 2.1 shows a Blended Learning approach environment from Isiguzel as below:



Figure 2.2 the Blended Learning Approach Environment

Source: Isiguzel, 2014

Figure 2.2 shows face-2-face learning work with Blended Learning approach was utilized to establish a Blended Learning approach environment for the learners.

Another research indicated that Blended Learning approach environment was combined four primary parts together: classroom, instructor, technology, and students (Shih, 2010) as shown in Figure 2.3.



Figure 2.3 Blended Learning Approach Environment

Source: Shih, 2010

In Figure 2.3, Shih (2010) gave a senior Blended Learning environment, in this environment, virtual and physical learning manners were fused to improve the learners' achievement. Individuals all spent one semester, the learners obtained to lecture and tutor teaching mechanism through this forum. In this learning forum, the learners were required to submit assignments at the same time, and these learning were required to make comments for their classmates. In an online learning and teaching environment, students were able to communicate at their own pace and consider comments and responses, rather than being put on the spot in the classroom (Mccarthy, 2010). They found that building meaningful relationships between their classmates was an important goal in the Blended Learning environment in the class.

There is also a model that utilized a proprietary learning and management platform (named AHyCo) (Hoic-Bozic, Mornar and Boticki, 2009) to achieve as a blending of traditional learning and on-line learning in a same education platform as following:



Figure 2.4 AHyCo Program Flow Model Source: Hoic-Bozic, Mornar and Boticki, 2009

2.4.3 Advantage of Blended Learning approach

The students learned through the Blended Learning approach model which was designed by Hoic-Bozic et al. (2009). In the Figure 2.4, there were six advantages as follows:

1) The students were able to apply their works on a computer programme that was one kind of software of course (courseware) (Hoic-Bozic et al., 2009).

2) The students jointed in a team as a whole new experience firsthand.

3) The students accessed on this platform any time to access mission, theme and forum.

4) The students were able to learn according to their own space and preference to arrange their learning time; they were freedom from a traditional class time.

5) The students were able to communicate with their teachers and obtain higher efficient ways.

6) The students were able to value the achievement of knowledge by themselves before the academic exam. (Kukulska - Hulme, 2010).

As expressed in the global of education for all, Blended Learning was able to achieve those who had missed learning opportunity and was able to help those who had been disappointed with early learning experiences. In addition, Blended Learning also was able to help kids, teenagers and human beings joined the global education (Kukulska-Hulme, 2010).

Moreover, through Blended Learning teachers were able to use website in the non-moral class time to attract learners, and the class also was able to help the learners became more positive and more efficient people (Al Zumor et al., 2013).

2.5 Theoretical of Language Acquisition

2.5.1 Constructivist Learning Theory

A new united education theory of human beings was developed by Vygotsky that initiated a new way of thinking about development (Lantolf and Thorne and Poehner, 2015). He acknowledged that the human mind comprised lower mental progresses, but the distinctive dimension of human consciousness was its capacity for voluntary control over biology through the use of higher level symbolic artifacts (Lantolf et al., 2015).

Vygotsky reasoned that in a parallel fashion to the development and use of material tools, human also have the ability to create and use tools which made up pf symbols to mediate their own psychological activity. He proposed that while physical tools are outwardly directed, symbolic tools are inwardly or cognitively directed (Lantolf et al., 2015). Just as physical world, symbolic tools serve as an auxiliary means to control and reorganize our biologically endowed mental processes (Lantolf et al., 2015).

After a long period of theoretical exploration and teaching practice, constructivists' theory has formed a unique concept of knowledge, study view, student outlook and teaching view (Yang and Jia, 2011). They pointed out that the main ideas of constructivist learning theory include the following concepts:

1) Constructivism combines Piaget's cognitive development and Vygotsky's constructive theory and applies it to the study of learning theory. The acquisition of knowledge is constructed, not by transmission. It is human nature to construct knowledge, and people construct knowledge adoring to their own experience. The use of existing knowledge and experience to explain the new experience and to make inferences, and to reflect on the process of interpretation and inference is what makes learning so unique within individuals. Therefore, learning is not a simple accumulation of information; it also includes the change of ideas and structural restructure caused by the emergence of new and old experiences. The original experience cannot ignore the students in teaching, students are not empty head into the classroom, not simply from the external hard for learners to implement knowledge of "spoon-feeding", should put the student's current knowledge and experience as the starting point of new knowledge, to lead learners to construct new knowledge and experience from the original experience (Yang and Jia, 2011). In essence, teaching is not a process of imparting knowledge, but a process by which teachers help to learn the meaning of their own experience (Yang and Jia, 2011).

2) Initiative and learning theory, knowledge is the learners actively construct the learner is not a passive acceptance of information, but, take the initiative to use the existing knowledge on the new knowledge and new information construction, this means that learning is active, learners should take the initiative to choose and the processing of the external information, teaching should be centered on the learner. Because there is a great difference between each learner, the differences in personal experience lead to differences in the views of things and phenomena between people are different, also different demand for knowledge. Knowledge is not that the objective existence of learners, it can be not simply "passed", also can be not be mechanically "copied", it can only be constructed (Yang and Jia, 2011).

3) Knowledge is characterized by situational, social, uncertainty and complexity. Knowledge is not an accurate representation of rarity, but a built perception of one's interpretations and hypothesis. Students may have different understanding of the same knowledge. The student's understanding of knowledge depends on the students' own experience background and the process of turning activities under specific circumstances (Yang and Jia, 2011).

4) Knowledge must be dependent on specific situations, and it is very important to important to create a suitable teaching situation. Constructivist learning theory advocates situational teaching and emphasizes the connection between knowledge representation and diverse situations, and organizes curriculum teaching according to different situations (Yang and Jia, 2011).

5) The change of teacher's role. Constructivist learning theory emphasizes students centered approaches to teaching. It is not only required for students to transform passive information from external stimulant and instilled objects of knowledge into the subject of information processing and active constructor of knowledge (Yang and Jia, 2011) meaning. At the same time, teachers are required to change their ideas of teaching subjects. Teachers should be transformed from the implanter and the instigator of the knowledge translate the designer of the students actively construct the designers, organizers, promoters, participants and helpers of knowledge (Yang and Jia, 2011).

6) Learning is social and students have their own experience, different

students can form different assumptions and inferences on a problem, and students can communicate with each other, discuss and argue, cooperate to accomplish certain tasks and solve problems together, thus forming richer and more flexible understanding. The purpose of communication is to test or identify self-view, get some recognition, students share experience together, discuss topics of interest together, promote learning mutually. The learners of common communication are bound to be influenced by the views and values of the people. Constructivism emphasizes cooperative learning. Through cooperative learning, students can understand the views that are different from themselves to build a more comprehensive and deeper understanding of knowledge and to establish a more complete knowledge representation. Cooperative ability (Yang and Jia, 2011).

In the 21st century, creating an environment that promotes constructivist learning within a classroom can be a challenge. Key elements of successful constructivist learning that are a problem to promote within a traditional classroom environment include the ability to explore, experiment, construct, converse and reflect (Jenny, 2013). The role of teacher is a facilitator who provides information and organizes activities for learners to discover their own learning. In constructivist classroom, learners don't passively repeat the information delivered from teacher. They demonstrate their learning and understanding through different means for example developing critical questions and summarizing ideas by their own words (Liu and Ju, 2010). In the early of knowledge explosion, students' learning can no longer rely solely on the teachers' delivery of knowledge and skills (Yeung, 2003).

2.5.2 Second Language Acquisition (SLA/L2) Theory

What is the second language acquisition? Linguist Chomsky said that "When we study human language, we are approaching what some might call the human essence, the distinctive qualities of mind that are, so far as we know, unique to humans (Gass, 2013)." Second language acquisition is that the process of learning another language after the native language or primary language has been learned (Gass, 2013). Rod and Ellis (2014) stated that learners have two independent systems for developing ability in second languages, subconscious language acquisition and conscious language learning, and that these systems are interrelated in a definite way: subconscious acquisition appears to be far more important (Juffs, 2011). Individual learner characteristics, for example language learning aptitude and attitude, affect the efficiency with which the processes will operate for an individual and the extent to which learner will use the learning strategies.

As a field, SLA is vibrant. It began in 1960s, with key initial developments during the decade of the 1970s. The field of SLA is decidedly interdisciplinary, both in its origins and its development, a quality that is felt in the epistemological diversity of its theories as well (VanPatten and Williams, 2014).

Various approaches to SLA can be labeled as "usage-based." They gave two working hypotheses that language learning is primarily based on learners' exposure to their second language in use, that is, the linguistic input they receive and learners induce the rules of their second language from the input by employing cognitive mechanisms that are not exclusive to language learning, but that are general cognitive mechanisms at work in any kind of learning, including language learning (Ellis and Wulff, 2008). They stated that major constructs of usage-based approaches of details as below:

1) Construction: "language learning is the learning of construction, pairings of form and meaning or function constructions range from simple morphemes to complex and abstract syntactic frames (Ellis and Wulff, 2008)."

2) Associative language learning: "learning constructions means learning the association between form and meaning or function (Ellis and Wulff, 2008)."

3) Emergent relations and patterns: "language learning is a gradual process in which language emerges as a complex and adaptive system from the interaction of simple cognitive learning mechanisms with the input. (Ellis and Wulff, 2008)."

Blended Learning approach is to solve the problem in different ways according to different problems and requirements and adopt different ways of media and information transmission in Chinese education. Blended Learning approach includes mixed types, mainly in multimedia teaching and virtual learning environment centered on Blended technology can inspire students learning Chinese (Zhao and Yao, 2013).

2.6 Blended Learning Approach in the Language Classroom

2.6.1 Concept of Blended Learning in the Language Classroom

Using Blendeds as a Blended Learning approach model in the classroom has some positive phenomena (Bradley, Weiss, Davies and Holley 2010) as followings:

1) Student feedback is very positive.

2) It is evident that they enjoyed using different, and what was perceived to be modern technology as part of their learning experience (Bradley et al., 2010).

3) The students liked the use of Blended Learning.

The technology has been part of the process in teaching and learning for many years, and that it can play a vital role if used correctly. Pedagogical practices in the 21st century should integrate technology in the process of designing and developing instructional design. They explain that students and teachers now urgently require a form of pedagogical practices towards technology-web environments which
believe able to engage students in learning and create interesting classrooms. Therefore, they stated that it is important to plan and design of learning which coincides with the specific needs of today's students and their learning styles. In line with Blended Learning approach, students should be exposed to a significant learning experience and an opportunity to improve their learning achievements, with the active involvement in the learning activities for traditional technologies and online learning in the classroom. They also said that Face-2-Face learning is learning-based real-time interaction between teacher and student in the classroom to help students transfer of learning. While learning via ICT is using web-based learning as the main platform learning process. Online learning should focus the use of Blended Learning approach technology to improve the level of the learner learning experience through interactive learning activities (online) and supported by a conducive face interaction between learners and teachers in the class (Yeop et al., 2016).

Blended learning method is a modern way of teaching used in educational field to enhance the learning process (Kukulska - Hulme, 2010). The Blended learning could include six modules (Paul, Mihai and Cristlan, 2010) as follows:

Module's Name≉	Tools and Characters.	
Content lessons	Curriculum text, video, audio, graphics, multimedia -	
Short assessments.	Available assessment to test learners' knowledge.	
	Teacher was able to assess learners anytime \cdot	
Final assessments.	A restricted duration and a specific date and time test	
	were able to give the learners.	
Trainer-student communication.	This part was able to support practice for learners. ${\ensuremath{\scriptscriptstyle \bullet}}$	
Content sharing.	Email, social network, cloud etc. It was able to allow	
	users to share the materials on this learning platform. ${\scriptstyle \varphi}$	
Homework and assignments.	Online or offline tasks were able to give to the learners	
	on the learning platform.	

Table 2.1 Six Modules and Characters of Them

Source: Paul et al., 2010

The Blended learning was able to define as a Blended technology used by an end-user for a particular purpose (Churchill, Fox and King, 2016). Like iPod Touch personal Blended device which self-study iPod Touch-based instructional method gave learner very positive attitudes (Oberg and Daniels, 2013) and an organic combination of traditional face-to-face classroom teaching and network teaching, it is a model of integration of information technology and curriculum (Han and Zhang, 2017). As mentioned before, the application of Blended Learning approach in this study that most students like utilized Blended Learning approach in Chinese learning in the classroom. The using of sound media for Chinese Pinyin learning through reading, recording and comparing sounds for students starting from 0 to 4 years can help to correct pronunciation (Wang, 2011). The use of graphic media of Blended learning in Chinese learning to teach vocabulary, has a strong intuitive (Li, 2014), can avoid some of the students cause of the weak foundation in English so that they can understand the Chinese meaning of words and explain in English (Sun, 2010).

2.6.2 The Features of Blended Learning Approach

2.6.2.1 Features of Blended Learning

Blended learning as a convenient way to learn on individual device in anywhere be able to provide access to the classroom learning contents and help learners communicate with their classmates and teachers at any gap of time (Moghaddas and Bashirnezhad, 2016). In addition, using Blended devices, teachers can provide a rich learning environment for learners, students benefit from classmate feedback, which shows how the classmates understand their ideas and what they need to improve. Some generate even omnipresent pedagogical affordances of Blended learning that are very movability, social communication ability, and individuality (Moghaddas and Bashirnezhad, 2016). For the school that gives them access to new resources and a new chance, application of Blended Learning approach in Chinese learning can inspire and make students enthusiastic to learn in class (Jing, 2010).

2.6.2.2 Features of Traditional Face-2-face Education

Tutty and Klein (2008) stated that learners in the traditional face-2-face education context acted important better on the personal posttest than those in the virtual online learning contest. In the face-2-face context where a learner is having question with may be interactively explored and teachers can answer clarify for the learners. The face-2-face context also provides learners with a chance to interact with the teacher during the real lecture materials to make some questions for clarification and direction on topics at the same time of a topic. Through their study who indicated that, the traditional to take a speeches education is most pointedly helpful for educating those learners ordinary effort technically or those curriculum that need a increased level of cognitive learning (Lu and Lemonde, 2013).

2.6.2.3 The Convergence Blended Learning and Face-2-Face Education

With the development of science and technology, a face-to-face traditional teaching method also incorporates teaching methods for example video and audio teaching materials. Teachers can connect the picture materials and the audio or video data through the data line or U disk to the interactive television. Watson (2008) stated that Blended Learning approach is combining the best factors of website learning and face-2-face education that it is probable to present as the important teaching model of the future.

2.6.3 Blended Learning approach and Traditional Education

2.6.3.1 Blended Learning approach in the Classroom

Blended Learning approach activities are highly dependent on pedagogy, learning experience, learning resources and models that are used to implement the learning process (Yeop et al., 2016), The following table is a summary of a Blended Learning approach activities that can be implemented based on the pedagogy of learning (Figure 2.5), gave a Blended Learning approach model in the classroom (Yeop et al., 2016). Blended Learning approach in the Classroom is as follows:

	Face-to-Face learning	Learning with Devices
Learning Resources	Textbook Workbooks reading Note teacher Table learning	Reading is online Online learning guide Website links Activities of self-paced online learning Schedule online learning
Collabora tive	Small group work Discussion Main role debate project work	Discussions, forums, debates and role-play on- line (virtual classroom) Small group work in virtual (meeting room) Build and share online learning resources.
Learning	Lecture tutorial Workshops / seminars Practical / internship working group	Video footage of teaching Webcast Virtual classrooms (online)
Communi cation	Talk face-to-face teacher-student Notice on the notice board Announcements role in the classroom Official letter	email Notice is online space forum Online chat rooms
Student activity	Drill on paper Self-learning reading Reading reflection	Drill through online Online testing Reading reflection is online e-portfolio

Table 2.2 Adaptation of Activities Blended Learning Approach

Source: Yeop et al., 2016

Blended Learning approach has the potential to facilitate learner autonomy in several ways. Online lecture recording had a positive impact on students learning outcomes as teacher can be repeated in whole or in part as the student requires. Moreover, the ability to control the speed of a recording has been used to create a listening environment consistent with conclusive learning styles. Students can get immediate feedback from automated self-study activities, giving them the opportunity to reflect upon mistakes while they are fresh in their mind. In addition to allow students to spend more time on what they do not understand, the students were also able to skip over what they do understand. The great flexibility and greater student control in web-enhanced learning environments has been shown to promote positive learner perceptions and better learning outcomes. Besides allowing students to students to study in a manner that suits their individual circumstances, blended and website, learning has the prospective to reduce student anxiety and stress. Blended Learning approach has been shown to reduce anxiety and positively impact learner performance by creating more opportunities to use the language outside of class and by cultivating a non-threatening environment that encourages experimentation (Gibeau and Imaki, 2014).

2.6.3.2 Traditional Education in the Classroom

Traditional education is defined as teacher-centered delivery of instruction to classes of students who are the receivers of information. This is the basic educational practices and expect mastery of academic learning in the core subjects of math, reading, writing, science and social studies (Huson, 2011). Moreover, traditional teacher-centered method that focused on rote learning and memorization, and this teaching method should be toss away in task-based approaches to learning (In Miller, Vandome and Mcbrewster, 2010). Traditional education in the class has these characters that professional team of teachers, teacher-student interaction and the knowledge imparted by teacher is systematic (Wu, 2013).

2.6.3.3 Online Education and Traditional Education

A sample model of online education was found from Staker and Horn (2012), this model was depicted in Figure 2.6 which provides explanation of each of the particular education practices.



Figure 2.5 Blended Learning approach in Relation to Other Education Practices Source: Staker and Horn, 2012

Education has become one of the fastest growing programme in recent years, especially; online education has become more popular in today's fast-paced society (Gardner, 2017). Online education allows students to take curriculums from different state or province and even from different countries. Some schools offer in-class curriculums, online curriculums, or hybrid curriculums (both in-class and online) (Gardner, 2017). The viewpoints of Gardner can be conclusion as below.

Table 2.3 Online and Traditional Education

Advantages of Online EDU		Advantages of Traditional EDU
1.more flexibility for students who work		1.direct contact with teachers,
full-time		students, and advisors
2.the ability to complete assignment s at		2. more assess to campus activities
times when it is most convenient	vs.	3.more suitable for hands on training
3. the ability to obtain a degree from a		
school in another state without moving		
4. less travel		
Disadvantages of Online EDU		Disadvantages of Traditional EDU
1.less direct contact with students and		1.less flexibility in class scheduling
professors		2. less cost effective
2.limited opportunities for student and	VS.	3. more travel to and from class
campus activities		
3.subject to technical difficulties and		
software crashes		E.
L'a		E SS

Source: Gardner, 2017

2.7 Student-Centered Learning in 21st Century

Student-centered learning is characterized by the application of constructivist theory of learning where learning is constructed via a series of interactions with the teacher and students or student and fellow students. It is an alternative to traditional learning characterized by the transmission of knowledge from the teacher to the student. In addition, student-centered learning is active and may be "personalized" by addressing learning needs, interests or diverse student backgrounds and it may be competency-based where students need to demonstrate that the knowledge and skills learned have reached the desired level or degree based on the learning outcomes specified. It may also mean that students are supported by a variety of learning materials and approaches to match the varied learning styles among students. Some of the approaches to create a student-centered learning environment include: flipped learning, Blended Learning approach, personalized learning, social collaborative learning, and the use of learning analytics (Cynthia and John, 2012).

Furthermore, the core in the student-centered environment is learner responsibility and activity. In addition, for teachers, in student-centered learning the responsibilities in the student-centered learning environment are: teachers recognized and accommodate different learning modalities; teachers provide structure without being overly directive; teachers listen to and respect each learner's point of view; teachers encourage and facilitate students' shared decision-making; and teachers help learners work through difficulties by asking open-ended questions to help them arrive at conclusions or solutions that are satisfactory to them (No, 2012).

2.8 Chinese Pinyin Learning in the World

2.8.1 Chinese Pinyin Learning Method

Chinese Pinyin is the Romanized phonetic transcription of the Chinese language. Chinese Pinyin was founded by the ministry of the PRC (People's Republic of China) and approved by the ministry in 1958 (Zhao, 2009). Chinese Pinyin system reflects the characteristics of the Chinese language. All Chinese Pinyin are composed of three parts: Chinese initials, Chinese finals and Chinese tones (Cynthia and John, 2012).

1) Chinese Initials: there are 21 initials in Chinese Pinyin. The initial consonant of Chinese Pinyin has 23 initials. They are called Shengmu: shengmu "b", shengmu "p", shengmu "m", shengmu "f", shengmu "d", shengmu "t", shengmu "n",

shengmu "l", shengmu "g", shengmu "k", shengmu "h", shengmu "j", shengmu "q", shengmu "x", shengmu "zh", shengmu "ch", shengmu "sh", shengmu "r", shengmu "z", shengmu "c", shengmu "s", shengmu "y", shengmu "w" and shengmu "y" (Zhao, 2009). Initials of Chinese Pinyin (Zhao, 2009) are as follows:

	Bila	abial	Labio-	Alveolar	Retroflex	Alveolo-	Palatal	Vela	ar.
			dental			palatal			
Plosive	b	р		d t				g	h
Nasal	1	n		n					
Lateral Approximant									
Affricate				z c	zh ch	j p			
Fricative			f	s	sh r	X		1	1
Approximant							У	v	v

Table 2.4 Initials of Chinese Pinyin

Source: Zhao, 2009

2) Chinese Finals: The finals of Chinese mean that each Pinyin ends with a Chinese final and the one final or two finals in Pinyin can be combined to from one sound (diphthong). A sample to describe the finals of Chinese Pinyin (Zhao, 2009) are as follows:

			Me	dial	
Nucleus	Coda		i	u	ü
[a]	Ø	Ea	ia	ua	
	[i]	ai		uai	
	[u]	ao	iao		
	[n]	an	ian	uan	üan
	[ŋ]	ang	iang	uang	
[\$]	Ø	e	ie	uo	üe
	[i]	ei		uei	
	[u]	uo	iou		
	[n]	en	in	uen	ün
	[ŋ]	eng	ing	ueng	iong
					Activate
	Ø		yi	wu	😗 to Settin

Table 2.5 Finals of Chinese Pinyin

Source: Zhao, 2009

3) Chinese Tones: There are 5 full tones of Pinyin in Chinese they are 4 full tones and a lightly tone in Chinese (Ning and Montanaro, 2012). They are written as follows: -, /, v, \. Figure 2.10 from Fish (2012) is as follows.



Figure 2.6 the Tones of Chines Pinyin

Source: Fish, 2012

Mandarin Chinese is a tonal language (Fish, 2012). The same initial and final(s) can be marked different tones to distinguish different meanings (Finsh, 2012). The tones give mandarin a very distinctive quality.

The tone must be marked on the major final in pinyin (textbook: Chinese Time).

1) If the pinyin has "a / o /e", the tone must be marked on it. For example: "xuǎn, qióng, juè".

2) If the pinyin only has "i/u/ ü', the tone must be marked on it. For example: "qī, lù, nǚ".

3) If the pinyin has "iu/ui", the tone must be marked on end of the letter. For example: "li ù, hu r.

4) There is a special tone, if some syllables are written at the end of the group words, phrases or sentences, they will lose their tone, the pinyin principle calls it "light tone". The Chinese pinyin principle regulates that do not use mark the light tone. For example: b aba, yu diang.

2.8.2 Chinese Pinyin's Rules

According to the textbook "Chinese Time" that Chinese pinyin has 3 principles as below:

1) Neutral Tone (Light Tone): The neutral tone is beside the four tones that it is said soft, short and lightly (Cynthia and John, 2012). Pinyin with a neutral tone has

no tone mark. Note that aside from grammatical particles, single Pinyin words cannot have a neutral tone.

2) Tones are from 3-3 to 2-3: When the third tone meets the third tone in a row, the first one has to become the second tone.

3) Tone Sandhi: The negative adverb "bù": when this word meets fourth tone, this negative adverb's tone from fourth tone become to second tone (from bù+qù to búqù). The number one "yī": when this word meets fist tone, second tone and third tone, this number one pronunciation from "yī" to read "yì". In addition, when this number one meets the fourth tone; this number one pronunciation from "yī" to "yí".

As usual, Pinyin' structure is being wrote "1 final +1 or 2 initials +1 tone". For example, bān, "b" is an initial, "an" is a final," – " is the first tone. Give another example, xi óng, "x" is an initial, "i" is a final, "ong" is another final, "/" is the second tone. But some pinyin don't have initial we call them zero initial pinyin. For example, "ān" and " \acute{e} only have final in each pinyin. Unlike English and many Indo-European languages, Chinese is a tonal and logographic language. Chinese language use logograms, more conventionally referred to as "characters". These characters are morphemes independent of phonetic change (Tse, 2009).

2.9 Blended Learning Approach in Chinese Pinyin Study

According to Chuang (2016) below is a list of apps for Blended Learning approach in Chinese Pinyin learning with varied functions.

2.9.1 Chinese Pinyin Applications of Blended Learning

Blended Learning approach's technology offers a range of tools for teachers with 21st century educational opportunities and new options for student-technology partnerships in learning (Churchill et al., 2016). Blended learning was applied in school programme was at a crucial moment of interest now, with the use of digital technology adding value in education is an evolving phenomenon (Turner, 2015).

It through interactive multimedia presentational capabilities, Blended technology enables the delivery of a range of multimedia material for example video, audio, graphics and integrated media (Zhang and Li, 2011). If appropriately designed for the context, educationally useful digital resources for learning can be effectively delivered via Blended technologies to students at any time, inside and outside the classrooms (Zhang and Li, 2011). Personal Blended devices as having the potential to help: Facilitate individual, cooperative and interactive work in class (Zhang and Li, 2011).

Plenty of programs of distant language learning were successful using different apps in Blended technology, which has successfully created a meaningful environment for students from different countries to practice their language and getting feedback instantaneously. A portable function was able to provide by Blended devices, the social connectivity, situation susceptibility, and personality were also able to support by Blended devices. The special features of mobility have integrated traditional learning with the inevitable advance of technology and make the education function better in both formal and informal setting (Ain et al., 2017). In addition, these Blended learning apps as a service guide when the students are out of classroom, the apps provide a true context of Chinese Language Learning for their real-world mandarin learning (Almekhlafi, Hu and Zheng, 2009). With Blended learning in Chinese pinyin learning, Chuang (2016) gave some Chinese Pinyin software as follows:

App's Name	System	From	Cost
Pinyin Trainer	Android	Google play	Free
Standard Mandarin	Android	Google play	Free
Pin Pin	Android	Google play	Free

Table 2.6 Chinese Pinyin Applications

Source: Chuang, 2016

2.9.2 Chinese-English Dictionary of Blended Learning

There are some Chinese-English dictionary software of Blended devices to support the users to learn Chinese Pinyin, written Chinese characters and English meanings, and English to Chinese meaning be listed by Chuang (2016) as follows:

 Table 2.7 Chinese-English Dictionary Applications

App's Name	System	From	Cost
English Chinese Dictionary	Android	Google play	Free
Pleco CN	Android	Google play	Free
Train Chinese	Android	Google play	Free
Hanping Lite	Android	Google play	Free
Source: Chuang, 2016			

In conclusion, in the literature review and previous studies, there had been a large number of researchers who utilized technology and Blended Learning approach, as auxiliary tool in the class combined with several Chinese Pinyin learning strategies would result the positive effects for instructors and students. Because of Blended Learning approach in this study was perceived as effective tool that can be utilized in the Chinese Pinyin learning class, and there was no case study was designed to implement in the Bangkok, Thailand for finding out whether the use of Blended Learning approach would improve the Chinese Pinyin learning of Thailand primary school students. The Blended Learning approach in Chinese Pinyin Learning utilized face-to-face learning and Blended devices together in the classroom as a learning model to build a Blended Learning approach environment for this study.

CHAPTER 3

RESEARCH METHODOLOGY

The research methodology used within the study was the quantitative method, which aimed to study the Primary 4 students effective of achievement in Chinese Pinyin Learning using Blended Learning. Moreover, the quantitative method also aimed to study the Primary 4 students' satisfaction through using Blended Learning in Chinese Pinyin Learning. The following outline gives rational to this study will be discussed:

3.1 Population and Sample

3.1.1 Population

3.1.2 Sample

3.2 Research Instruments

3.2.1 Pretest and Posttest

3.2.2 Questionnaires

3.2.3 Applications of Pinyin Learning Ranasit

3.2.4 Lesson Plan

3.3 Validity and Reliability

3.3.1 Validity

3.3.2 Reliability

3.4 Data Collection

3.5 Data Analysis

3.5.1 Learning Achievement Test (Pretest and Posttest)

3.5.2 Questionnaires

3.1 Population and Sample

3.1.1 Population

The population of this study was 72 Primary 4 students studying in 3 classes in international program, 1st semester of 2017 academic year at Srasas Witaed Saimai School, Bangkok, Thailand. And each class had 24 Primary 4 students in the international program.

3.1.2 Samples

The school assigned two Chinese teachers and the researcher was assigned to teach two classes. The researcher used the simple random sampling method to select two groups by drawing the students' ID out in random, each group consisting of 24 students. Hence, two groups used the same technique to determine which section was randomly picked up for experimental group and which one for control group. The result showed the final 24 students used in each group.

It is important to note that during the research study, six students left the school, one of which was from experimental group and other five Students were from control group. Moreover, the students who were not chosen into the two experimental groups that were taught Chinese Pinyin in the same week were not beginners of Chinese Pinyin learning class and could not be chosen to fill the population into two groups to take the pretest in this study. Therefore, the experimental group was 23 students and the control group had only 19 students remained. The demographic information will be listed in Table 4.1, chapter 4.

3.2 Research Instrument

The research design of this study was a quantitative method, which aimed to improve the learning achievement of Primary 4 students in Chinese Pinyin Learning using Blended Learning. In this study, the pretest and posttest were developed to compare the learning achievement of the experimental and control groups before and after the use of Blended Learning. The researcher also used questionnaires to find out the satisfaction of the experimental group after teaching with the Blended Learning. The researcher adopted Chuang (2016) concept and applied to design to set the questionnaire.

3.2.1 Pretest and Posttest

To study the effect of Blended Learning on the students' learning achievement pretest and posttest were conducted to both the groups. The test was conducted in 4 parts using 10 'fills in the blank' items for dictation and reading. And, there were 12 'fills in the blank' items for writing and 10 items for speaking and reading on Chinese Pinyin. Pretest and posttest were conducted to both of the groups to compare the learning achievement before and after the treatment was given.

After the pretest, the control group was taught by using the traditional method whereas the experimental group was taught by using the Blended Learning method. The posttest used the same questions as in the pretest after the treatment was conducted. The pretest was administered in the beginning of the study and the posttest was administered at the end of the experiment. The researcher used the pretest and posttest to study the effectiveness in Blended Learning in Chinese Pinyin learning in this study. The quantitative researcher used questionnaires in Blended Learning in Chinese Pinyin learning for evaluation of improvement in Chinese Pinyin learning. The contents of pretest and posttest (the details are in the Appendix D) are as follows:

Introduction: This Exam Consists of 1 Page				
Section A: Listening	10 items	10 points		
Section B: Speaking	10 items	10 points		
Section C: Reading	02 items	10 points		
Section D: Writing	12 items	12 points		

Table 3.1 Pretest and Posttest Design

3.2.2 Questionnaire

A survey questionnaire using mixed form was used, including the five points Likert Scale and multiple choice testing, in order to find out the satisfaction of Primary 4 students in learning Chinese Pinyin after using the Blended Learning. The researcher developed two parts to the questionnaire. Part A asked about the student's demographic information and Part B was the perspective questionnaire which consisted of 10 statements of questions asking about the students' satisfaction. The questionnaire was administered only to the experimental group after the treatment and the questionnaire will be showed in the Appendix E. The Rating Scales of questionnaire are as follows:

Rating Scores	Meaning
5	Strongly Agree
4	Agree
3 4	Normal
	Disagree
1 ยาลัยรังสิต	Strongly Agree

Table 3.2 the Rating Scales of Questionnaire

In addition, the research included four Applications of Pinyin Learning and Lesson Plans to support in data collection process. The applications and Lesson Plans are as follows:

3.2.3 Applications of Pinyin Learning

According of the curriculum book "*Chinese Time*" that the researcher used four software applications of Blended Learning in the classroom, there were four software applications of Chinese Pinyin Learning that were utilized in this study. They were free and taken from Google Play Store in offline mode. Four Applications of Pinyin Learning are as follows:

Applications' Name	System	Free and Offline	Lesson plan	Logo
1. Baby Learns Pinyin	Android	\checkmark	1-8	
2. Learn Pinyin	Android	J	1-8	Learn
3. Pin Pin	Android		9-11	热
4. ABC Chinese	Android	~	12	中文

Table 3.3 Applications of Pinyin Learning in the Experimental Group

These Applications have offline learning function, and they are all popular, useful and free for their users. The *Baby Learns Pinyin* Application is a combination of Pinyin strokes, phrase pronunciations, cartoon illustrations, with divergence-shaped memory, for these reasons, a learner can master the standard Pinyin pronunciation faster. It is suitable for beginning learners. Therefore, the researcher used it in the Lesson Plan 1-8 for the students to learn initials and finals of Chinese Pinyin.

The *Learn Pinyin* Application has very clear English interpretation of Pinyin and is very convenient quizzes within, for these reasons a learner can test listening, reading and speaking skills of Pinyin easily. It is also very convenient and easy to understand for a beginning learner. Therefore, the researcher used it in Lesson Plan 1-8 to practice initials and finals of Chinese Pinyin.

The Pinpin Application is focusing on the tones learning of Pinyin. It is very

suitable for a learner who has a Pinyin Learning foundation to practice the different part of tones in each Pinyin. Therefore, the researcher used it in Lesson Plan 9-11 to practice Pinyin in the classroom.

The *ABC Chinese* Application has 36 topics and 3 levels; the first level has nine topics, like alphabet letters, numbers, colors, verbs, food and so on. The topic of numbers just coincided with the lesson plan 12.

3.2.4 Lesson Plan

3.2.4.1 Lesson Plans of Pinyin Learning

The lesson plans were following the lesson 1 to lesson 4 in a curriculum book named "Chinese Time" (Appendix C) that was from a private school in Bangkok. The researcher used 12 weeks of 50 minutes one period in Chinese Pinyin Learning using the blended learning during the experiment. The researcher designed four lesson topics of Chinese Pinyin, which were used in both the experimental group and control group. The experimental group was taught using by the Blended Learning and the control group was taught using by the traditional method.

The researcher used the four kinds of Chinese Pinyin software on Android operational system in the class for the experimental group. The software from China was very useful for learners to improve their Chinese Pinyin learning. In this study, all of the software used was free and popular in China. The lesson topics were taught in the same week but on different days. The researcher taught once a week for both of the experimental groups.

According to the curriculum book of the first semester of 2017 academic year, the researcher used Lesson 1-4 from the *Chinese Time*. The first lesson from *Chinese Time* was named "Pronunciation One: Initials" was divided four lesson plans to teach. The second lesson from *Chinese Time* was named "Pronunciation Two: Finals" was divided four lesson plans to teach. The third lesson from *Chinese Time* was named "Pronunciation Three: Tones" was divided three lesson plans to teach. The fourth lesson from *Chinese Time* was named "Pronunciation Four: Practice" was used onel lesson plan to teach.

According to the lesson plans, the researcher used the software *Baby learn Pinyin* to teach the first lesson in the lesson plan 1-8 that was from the 1st week to the 8th week. At the same time, the researcher used the software *Learn Pinyin* to give the students practice the initials and finals of Chinese Pinyin in the same Lesson Plan 1-8 from 1st week to the 8th week. Then, the researcher used the software *Pin Pin* to teach the third topic in the lesson plan 9-11 that was from the 9th week to the 11th week. Finally, the researcher used the software *ABC Chinese* to teach the last topic in the lesson plan 12 that was in the 12th week. All of the software as mentioned above were listing in the 3.2.3. The twelve Lesson Plans of experimental group are as follows:

Lesson Plan	Name of Software	Lesson Topics	Duration in the First Semester
Plan 1-8	Baby Learns Pinyin, Learn Pinyin	Chinese Initials	the 1 st -8 th weeks
Plan 5-8	Baby Learns Pinyin, Learn Pinyin	Chinese Finals	the 1 st -8 th weeks
Plan 9-11	Pin Pin	Chinese Tones	the 9 th -11 th weeks
Plan 12	ABC Chinese	Chinese Pinyin practice	the 12 th week

Table 3.4 Lesson Plan in the Experimental Group

The control group was used the same Lesson Topics without software. The lesson plans from 1-4 were taught Chines initials, the lesson plans from 5-9 were taught Chinese finals, the lesson plans from 10-11 were taught Chinese tones, and the

same lesson plan 12 was taught Chinese Pinyin Practice. The weeks of the Lesson Plans of control group are as follows:

Lesson Plan	Lesson Tonic D	Juration in the First Semester				
Table 3.5 Lesson Plan in the Control Group (Cont.)						
Plan 1-4	Chinese initials	the 1 st -4 th weeks				
Plan 5-8	Chinese finals	the 5 st -8 th weeks				
Plan 9-11	Chinese tones	the 9 th -11 th weeks				
Plan 12	Chinese Pinyin practice	the 12 th week				

Table 3.5 Lesson Plan in the Control Group

3.2.4.2 The Details of Lesson Plan

The researcher used the curriculum book *Chinese Time* to design 12 lesson plans for the Primary 4 students. There were 4 lessons from the curriculum book used into this study. Lesson 1 Pronunciation (1) which from the curriculum book was divided into 4 Lesson Plans: Lesson Plan 1-4. Lesson 2 Pronunciation (2) which from the curriculum book was divided into 4 Lesson Plans: Lesson Plans: Lesson Plan 5-8. Lesson 3 Pronunciation (3) which from the curriculum book was divided into 3 Lesson Plans: Lesson Plan 9-11. Lesson 4 Pronunciation (4) which from the curriculum book was used in Lesson Plan 12.

The researcher will show the contents of Lesson 1 to Lesson 4 from curriculum book in the Appendix C. In addition, the more details of Lesson Plans 1-12 are about as follows:

Topic 1. Part One of Chinese Initials (Pronunciation 1)

Step 1. Pretest

Step 2. Learn the Chinese Initials: b, p, m, f, d, t, n, l;

Applications: Wisdom Island of Baby, Learn Pinyin,

Device system: Android, Multimedia TV

Curriculum Design: Baby Learns Pinyin Application



Step 3. Reading and Writing

Step 4. Practice on the Device: Learn Pinyin Application



Illustration: in Step 4, students can use this application record their pronunciation to compare with the original sound in this application.

Step 5. Dictation of any order from b—l.

Topic 2. Part Two of Chinese Initials (Pronunciation 1)

Step 1. Learn the Chinese Initials: g, k, h, j, q, x,

Applications: Wisdom Island of Baby, Learn Pinyin,

Device system: Android, Multimedia TV

Curriculum Design: Baby Learns Pinyin Application



Step 2. Reading and Writing

Step 3. Practice on the Device: Learn Pinyin Application



Illustration: in Step 3, students can use this application record their pronunciation to compare with the original sound in application.

Step 4. Dictation of any order from g--x

Table 3.8 the Details of Lesson Plan 3

Plan 3

Topic 3. Part Three of Chinese Initials (Pronunciation 1)

Step 1. Learn the Chinese Initials: zh, ch, sh,

Applications: Wisdom Island of Baby, Learn Pinyin,

Device system: Android, Multimedia TV

Curriculum Design: Baby Learns Pinyin Application



Step 3. Practice on the Device: Learn Pinyin Application



Illustration: in Step 3, students can use this application record their pronunciation to compare with the original sound in application.

Step 4. Dictation of any order from zh, ch, sh

Topic 4. Part Four of Chinese Initials (Pronunciation 1)

Step 1. Learn the Chinese Initials: z, c, s, y, w,

Applications: Wisdom Island of Baby, Learn Pinyin,

Device system: Android, Multimedia TV

Curriculum Design: Baby Learns Pinyin Application



Step 2. Reading and Writing

Step 3. Practice on the Device: Learn Pinyin Application

¢	Initials (***) (*) (***) Listen and then repeat. Top (*) to record your sound. (*) Z		and then repeat:	ingsit	Listen and then report. Top to record your	sound.	*
	3	Initials (2014) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	8	Listen and then repeat. Tap to record your sor	ind.		

Illustration: in Step 3, students can use this application record their pronunciation to compare with the original sound in application.

Step 4. Dictation of any order from z-y

Topic 5. Part One of Chinese Finals (Pronunciation 2)

Step 1. Learn the Chinese Finals: a, o, e, i, u, ü

Applications: Wisdom Island of Baby, Learn Pinyin,

Device system: Android, Multimedia TV

Curriculum Design: Baby Learns Pinyin Application









Step 2. Reading and Writing

Step 3. Practice on the Device: Learn Pinyin Application



Illustration: in Step 3, students can use this application record their pronunciation to compare with the original sound in application.

Step 4. Dictation of any order from a-ü

Topic 6. Part Two of Chinese Finals (Pronunciation 2)

Step 1. Learn the Chinese Finals: ai, ei, ui, ao, ou, iu

Applications: Wisdom Island of Baby, Learn Pinyin,

Device system: Android, Multimedia TV

Curriculum Design: Baby Learns Pinyin Application







Step 2. Reading and Writing

Step 3. Practice on the Device: Learn Pinyin Application

Finds (14) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	AL AL	Finals (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	3	Finals (strip) (2) (2) (2) Listen and then repeat. Tap () to record your sound. (*) (U) (U)	
Finals (bb) (b) (b) (c) (c) Listen and then repeat. Tap (b) record your sound. (c) (c) (c) (c) (c) (c) (c) (c) (c) (c)	a a	Finds (1) (2) (1) (2) (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	3	Finals (14) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	

Illustration: in Step 3, students can use this application record their pronunciation to compare with the original sound in application.

Step 4. Dictation of any order from ai--iu

Table 3.12 the Details of Lesson Plan 7

Plan 7

Topic 7. Part Three of Chinese Finals (Pronunciation 2)

Step 1. Learn the Chinese Finals: ie, üe, er, an, en, in,

Applications: Wisdom Island of Baby, Learn Pinyin,

Device system: Android, Multimedia TV

Curriculum Design: Baby Learns Pinyin Application







Step 2. Reading and Writing

Step 3. Practice on the Device: Learn Pinyin Application



Illustration: in Step 3, students can use this application record their pronunciation to compare with the original sound in application.

Step 4. Dictation of any order from ie--iu

Topic 8. Part Four of Chinese Initials (Pronunciation 2)

Step 1. Learn the Chinese Initials: un, ün, ang, ing, eng, ang

Applications: Wisdom Island of Baby, Learn Pinyin,

Device system: Android, Multimedia TV

Curriculum Design: Baby Learns Pinyin Application









Step 2. Reading and Writing

Step 3. Practice on the Device: Learn Pinyin Application



Illustration: in Step 3, students can use this application record their pronunciation to compare with the original sound in application.

Step 4. Dictation of any order from un--ong

Topic 9. Part One of Chinese Tones (Pronunciation 3)

Step 1. Learn the Chinese tones:

Application: Pin Pin, tones with final a, ai, ao, an, ang

Device system: Android, Multimedia TV

Curriculum Design: Pin Pin Application



Step 2. Reading and Writing

Step 3. Practice on the Device: Pin Pin Application: b,p,m, f, d, t, n, and l final with a

bā	bāi	bāo	bān	bāng
pā	pāi	pāo	pān	pāng
mā	māi	māo	mān	māng
fā			fān	fāng
ote tha	t some ii	nitial-fina	l combi	nations c

Illustration: in Step 3, students can use this application record their pronunciation to compare with the original sound in application.

Step 4. Practice

Spell Pinyin of any order from Step 3

Topic10. Part Two of Chinese Tones (Pronunciation 3)

Step 1. Learn the Chinese Tones: the first tone, second tone, third tone, fourth tone and the light tone

Application: Pin Pin, tones with final o

Device system: Android, Multimedia TV

Curriculum Design: Pin Pin Application



Step 2. b,p,m,f,d,t,n, and l initials with o final and tones

Step 3. Practice on the Device: Pin Pin Application



Illustration: in Step 4, students can use this application record their pronunciation to compare

with the original sound in application.

Step 4. Practice

Spell Pinyin of any order from Step 3

Topic 11. Part Three of Chinese Pinyin (Pronunciation 3)

Step 1. Learn the Chinese Tones: First, second, third, fourth and neutral tones.

Application: Pin Pin

Device system: Android, Multimedia TV

Curriculum Design: Pin Pin Application

sā	sāi	sāo	sān	sāng	0	cā	cāi	cāo	cān	cāng
			sõng	sõu					cō ng	cōu
zā	zāi	zāo	zān	zāng		sā	sāi	sāo	sāng	sōng
			7000	700		cā	cāi	cāo	cāng	cōng
			Zong	200		zā	zāi	zāo	zāng	zōng
Step 2. Reading and Writing										

Step 3. Practice on the Device: Learn Pinyin Application

Illustration: in Step 3, students can use this application record their pronunciation to compare with the original sound in application.

Step 4: Distinguish: The "s" initial is pronounced just like the English "s" with the tip of the tongue placed against the back of the bottom front teeth. The "c" initial is pronounced like "ts". The "z" initial might sound similar to the "dz" in English.

Step 5. Practice

Spell Pinyin of any order from Step 3

Topic12. Learn Number in Chinese Pinyin (Pronunciation 4)

Step 1. Learn the number from 1 to 10 in Chinese

Applications: ABC Chinese

Device system: Android, Multimedia TV

Curriculum Design: Cards of numbers in Chinese



Step 3. Practice on the Device: ABC Chinese

This application can use to learn and practice the Pinyin of numbers.

Step 4. Write any order of Pinyin from 1-10

Step 5. Show different numeral cards and the students should be say the number in Chinese

Step 6. Posttest

3.3 Validity and Reliability

3.3.1 Validity

The research instruments were each validated by three experts who are academic persons within Rangsit University, Thailand. Item Objective Congruence of the instruments were calculated to see if items align with the learning objectives. Item Objective Congruence would be computed for the learning achievement test and the lesson plans. Item Objective Congruence result index ranges from -1 to +1. If the rating is 1, it means that the item clearly matches stated objectives. If the rating is 0, it means that item is unclear or not sure whether the measures meet the objectives or not. If the rating is -1, it means that the item clearly does not match objective or ensure that that the measures does not meet the stated objective. If the value for any test item is between 0.67 to 1.00, the item is considered for accuracy and acceptable and if the value is below 0.67 to -1, the item needs to be changed (Rovinelli & Hambleton, 1976). The Item Objective Congruence result index form is shown in Appendix B. The results were 1 in each instrument, achievement test (pretest and posttest), Lesson Plans and questionnaires, in this study. Therefore, the pretest and posttest, Lesson Plans and รับสิต Rangsit Uni questionnaires were valued.

3.3.2 Reliability

To check the reliability of the questionnaire, the Crobach's alpha was applied to find out the reliability coefficient of the questionnaires in this research. The Crobach's alpha coefficient should be equal to or greater than 0.70 for the instruments to be reliable. The result of this study was 0.90, therefore the questionnaire was valued.

The study was carried out from June to August during the 1st semester of academic, 2017. The researcher taught both of the groups once a week.

3.4 Data Collection

The data collection process was in the Chinese learning class during 12 weeks of 50 minute- periods in Chinese Pinyin Learning. The students used Blended Learning during the experiment. The researcher designed the Pinyin into four Chinese lessons for experimental group and control group. The experimental group was taught by using of Blended Learning approach and the control group was taught by using the traditional method. The researcher taught once a week for both of the groups. The Chinese lessons were taught in the same week but on different days. The data collection and analysis schedules are as follows:

Procedures	Schedule in the First Semester					
	of Academic 2017					
Pretest, posttest, questionnaire, Lesson Plan design	Before the in 1 st semester					
Pretest	in 1 st week					
First data analysis of Pretest	in 2 nd -3 rd week					
Posttest	In12 th week					
Questionnaires	in 13 th week					
Data analysis of Posttest and Questionnaires	in 14 th week					
Note: The schedule is flexible depending on the participation's availability						

Table 3.18	Data	Collection	and	Analysis	Sche	dules
				~		

3.5 Data Analysis

3.5.1 Learning Achievement Test (Pretest and Posttest)

In assessing the effectiveness of blended learning compared to the traditional teaching method on the learning achievement of Primary 4 students in Chinese Pinyin learning, the comparison between the pretest and posttest scores was done by t-test. The mean scores (\overline{X}) the standard deviation (SD), t-value and p-value of pretest and posttest were computed within both experimental group and control group.
In addition, the descriptive of statistic growth percentage of four language skills (Listening, Reading, Speaking and Writing) was used to analyze the pretest to posttest of two groups and achievement test level of the samples.

3.5.2 Questionnaires

To find out the satisfaction of Primary 4 students in learning Chinese Pinyin after using the blended learning, the questionnaire comprising of 10 items was used in the experimental group. The data was collected through the questionnaire and was analyzed by using descriptive statistics the average percentage of satisfaction was used for comparing each item of boys' and girls' satisfaction.

The scores of satisfaction and average percentage satisfaction were computed within experimental group. In addition, the analysis was done by using SPSS, and the mean scores (\overline{X}) the standard deviation (SD), the t-value and the p-value were compared in independent t-test.



CHAPTER 4

DATA ANALYSIS

This chapter presents the findings of the research study in order to illustrate whether the objectives of the study had been fulfilled. The main purposes of the study were to investigate application of blended learning in the classroom improved concentration and enthusiasm of students in the class and increase students' motivation of Primary 4 students in Sarasas Witaed Saimai School, Bangkok, Thailand.

The research methodology used the quantitative method. The first analysis was the test scores analysis of Pretest and Posttest of the international program Primary 4 students in the experimental and control groups in Chinese Pinyin learning. The mean scores (\overline{X}), standard deviation (SD), Mean difference (MD), t-value, p-value of pretest and posttest were computed with both experimental and control groups. In addition, the Average Growth Percentage (AGP) of four Chinese language skills (Listening, Reading, Speaking and Writing).

The second analysis was the questionnaire analysis on satisfaction of Primary 4 students in learning Chinese Pinyin through blended learning. The average percentage and mean scores (\overline{X}), standard deviation (SD), t-value and p-value were computed with satisfaction of students were taught by Blended Learning in the experimental group.

.4.1 Demographic Information of The Samples

Gender	Experimental	Control	Total
Male	10	12	22
Female	13	7	20
Total	23	19	42

Table 4.1 Demographic Information of Primary 4 Students in Experimental and Control Groups

Table 4.1 shows that 42 students of Primary 4 in the international program who participated in the preference survey, consisting of 10 boys and 13 girls in the experimental group, 12 boys and 7 girls in the control group. The experimental group was taught Blended Learning method and the control group was taught traditional teaching approach to learn Chinese Pinyin. Both of the experimental and the control group students were in the age group of 8 to 10 years old. The experimental group had 23 students and the control group had 19 students for mentioned in Chapter 3, during the research study, six students left the school, one of which was from the experimental group and other five students were from the control group.

4.2 The Analysis of Pretest and Posttest Scores

The pretest and posttest mean scores of Primary 4 students in an international program of the experimental compared to the control groups on the application of blended learning in Chinese Pinyin learning in a private school in Bangkok. The number of the students in the experimental group was 23 students and 19 students in the control group. The analysis was done by using SPSS to get mean scores (\overline{X}), standard deviation (SD), mean difference (MD), t-value, p-value, and the researcher calculation of the average percentage. The pretest and posttest scores were compared in mean scores (\overline{X}), standard deviation (SD), mean difference (MD), t-value, p-value, p-value, and the researcher calculation of the average percentage. The pretest and posttest scores were compared in mean scores (\overline{X}), standard deviation (SD), mean difference (MD), t-value, p-value, and the researcher calculation Student Passing Rate (SPR), Average Scoring Rate (ASR) and Growth Percentage (GP).

4.2.1 Pretest Scores of Experimental and Control Group

The first analysis is on pretest scores in the experimental and control groups. Table 4.2 The Pretest Scores of the Experimental and Control Groups

Groups	Experimental Group	Control Group
Number of students	23	19
Pretest Scores	0.00	0.00

Table 4.2 shows that the pretest scores of experimental and control groups were 0.00. It can be concluded that the Primary 4 students in both the experimental and control groups had the same Chinese Pinyin learning level at the beginning stages of this study.

4.2.2 A Comparison of Posttest Scores of the Experimental and Control Groups

Table 4.3 Mean Scores (\overline{X}), Standard Deviation (SD), Mean Difference (MD), t-value and p-value of Posttest Scores of the Experimental and Control Groups (Independent t-test)

Groups	\overline{X}	SD	MD	t-value	p-value	
Experimental Group	24.54	4.83	8.65	5 22	0.00	
Control Group	15.90	5.69	=20.5%	5.55	0.00	

Table 4.3 shows the mean scores of the Primary 4 students in the experimental group was 24.54 with standard deviation of 4.83 (\overline{X} = 24.54, SD = 4.83); whereas the mean scores of the Primary 4 students in the control group was 15.90 with the standard

deviation of 5.69 (\overline{X} =15.90, SD = 5.69). The mean difference between the two groups was 8.65 (MD = 8.65), the experimental group mean difference is 20.5% higher than the control group. The t-value was 5.33 with the p-value was 0.00 (p < 0.05). Therefore, it can be concluded that the mean scores of the posttest of the experimental group was higher than the mean scores of the posttest of the control group. The following Figure 4.1 illustrates the comparison of the posttest mean scores of the experimental and control groups.



Figure 4.1 Comparison of Posttest Mean Scores of the Experimental and Control Groups

From Figure 4.1, it shows that the improvement of protest in experimental group and faster than the control group.

4.2.3 Comparison of the Pretest and Posttest of the Experimental Group

Achievement	X	SD	t-value	p-value
Pretest	0.00	0.00	-24.38	0.00
Posttest	24.54	4.83		

Table 4.4 Mean Scores and Standard Deviation (SD) of Pretest and Posttest Scores in Experimental Group (Paired t-test)

Table 4.4 shows the mean scores in the experimental group was 0.00 with the standard deviation of 0.00; whereas the mean scores of the posttest was 24.54 with standard deviation of 4.83 (\overline{X} =24.54, SD = 4.83). The t-value was -24.38 with the p-value was 0.00 (p < 0.05). Thus, it can be interpreted that blended learning in the classroom has a positive impact on the participants of Chinese Pinyin learning posttest scores. The following Figure 4.2 illustrates the mean scores of the pretest and posttest scores of the experimental group.



Figure 4.2 Mean Scores of Pretest and Posttest Scores in the Experimental Group

From Figure 4.2, it shows that the Primary 4 students through the Blended Learning to learn Chinese Pinyin that the achievement of mean scores from pretest to posttest got an obvious improvement in the experimental group.

4.2.4 A Comparison of the Pretest to Posttest of the Control Groups

Table 4.5 Mean Scores (\overline{X}), Standard Deviation (SD), t-value and p-value of Pretest and Posttest Scores of Control Group (Paired t-test)

Achievement	\overline{X}	SD	t-value	p-value
Pretest	0.00	0.00	-12 19	0.00
Posttest	15.90	5.68	12.17	0.00

Table 4.5 shows the mean scores of the Primary 4 students in the control group's pretest was 0 with standard deviation of 0; whereas the mean for the posttest was 15.90 with standard deviation of 5.68 (\overline{X} =15.90, SD = 5.68). The t-value was -12.19 with the p-value was 0.00 (p < 0.05). It shows the Primary 4 students improved their Chinese Pinyin scores through using the traditional teach approach is a little slower than the experimental group. The following Figure 4.3 illustrates the comparison of the pretest and posttest scores of the control group.



Figure 4.3 Comparison of Pretest and Posttest Scores for the Control Group

Figure 4.3 shows the mean difference of the pretest and the posttest in the control group was 15.90 (MD = 15.90). Based on the analysis of the quantitative data collected from the Chinese Pinyin learning pretest and the Chinese Pinyin learning posttest, the researcher has come to the conclusion that in an effort to improve student Chinese Pinyin learning by application of blended learning.

4.2.5 Analysis Growth Percentage (GP) of Chinese Language Skills of the Experimental Group

 Table 4.6 the Chinese Language Scores and the Growth Percentage (GP) of Scores in

 the Experimental Group

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14 0 3 30 0 8 80 0 10 100 0 10 83.33	
15 0 3 30 0 10 100 0 10 100 0 11 91.67	
16 0 0.5 5 0 8 80 0 10 100 0 7 58.33	
17 0 2 20 0 8 80 0 10 100 0 4 33.33	
18 0 3 30 0 6 60 0 8 80 0 7 58.33	
19 0 4 40 0 6 60 0 8 80 0 6 50	
20 0 2 20 0 4 40 0 6 60 0 9.5 79.17	
21 0 4.5 45 0 6 60 0 8 80 0 6 50	

	the Experimental Group (Cont.))					
22	0	4.5	45	0	8	80	0	10	100	0	8.5	70.83
23	0	4	40	0	10	100	0	10	100	0	6.5	54.17
Т	0	59		0	154		0	197		0	153.5	
AV	25.64%				66.96%			85.65%			55.62%	, D

Table 4.6 the Chinese Language Scores and the Growth Percentage (GP) of Scores in the Experimental Group (Cont.)

(LS=listening skill, RS=reading skill, SS=speaking skill, WS=writing skill, T=total, AV=average, 10 scores for LS, RS, SS, 12 scores for WS)

Table 4.6 shows four skills' scores of the pretest and posttest of each student in the experimental group. The growth average percentage from pretest to posttest of listening skill in experimental group is 25.65%. The growth average percentage from pretest to posttest of reading skill in experimental group is 66.96%. The growth average percentage from pretest to posttest of speaking skill in experimental group is 85.65%. The growth average percentage from pretest to posttest of writing skill in experimental group is 55.62%.

4.2.6 Analysis Growth Percentage (GP) of Language Skills of the Control Group

Table 4.7 the Chinese Language Scores and Growth Percentage (GP) in the Control

		010 <i>m</i> p				OINI	1.						
ID		LS	GP	R	S	GP	S	S	GP	V	WS	GP	
1	0	1	10	0	2	20	0	5	50	0	0	0	
2	0	1.5	15	0	2	20	0	5	50	0	6	60	
3	0	0	0	0	2	20	0	6	60	0	3	30	
4	0	4	40	0	6	60	0	2	20	0	4	40	
5	0	1	10	0	6	60	0	4	40	0	2	20	
6	0	3	30	0	6	60	0	9	90	0	6.5	65	
7	0	1	10	0	8	80	0	6	60	0	1.5	15	
8	0	1.5	15	0	8	80	0	6	60	0	0	0	
9	0	3	30	0	8	80	0	3	30	0	2.5	25	

Group (Cont.)												
10	0	3	30	0	8	80	0	8	80	0	2.5	25
11	0	3	30	0	2	20	0	5	50	0	3.5	35
12	0	0	0	0	6	60	0	4	40	0	0.5	5
13	0	3.5	35	0	10	100	0	8	80	0	4	40
14	0	5.5	55	0	8	80	0	9	90	0	4.5	45
15	0	2.5	25	0	8	80	0	6	60	0	2.5	25
16	0	4.5	45	0	6	60	0	4	40	0	0	0
17	0	4.5	45	0	4	40	0	2	20	0	3	30
18	0	4	40	0	6	60	0	6	60	0	4.5	45
19	0	3	30	0	6	60	0	7	70	0	3	30
Т	0	49.5		0	112		0	105		0	53.5	
AV	0	26.03	5 %	0	58.9	95%	0	55.	26%	0	23.4	-6%

Table 4.7 the Chinese Language Scores and Growth Percentage (GP) in the Control

(LS=listening scores, RS = reading scores, SS = speaking scores, WS= writing scores, T= Total, AV= average, 10 scores for LS, RS, SS, 12 scores for WS)

Table 4.7 shows four skills' scores of the pretest and the posttest of each student in the control group. The growth average percentage from pretest to posttest of listening in Chinese Pinyin in control group is 26.05%. The growth average percentage from pretest to posttest of reading in Chinese Pinyin in control group is 58.95%. The growth average percentage from pretest to posttest to posttest to posttest of speaking in Chinese Pinyin in control group is 55.26%. The growth average percentage from pretest to posttest of writing in Chinese Pinyin in control group is 55.26%. The growth average percentage from pretest to posttest of writing in Chinese Pinyin in control group is 23.46%.

4.2.7 Comparison of Chinese Language Four Skills in Experimental Group and Control Group.

From Table 4.5 and Table 4.6 to get a Figure is as following:



Figure 4.4 Chinese Language 4 Skills in the Experimental and Control Group

Figure 4.4 shows the reading, speaking and writing skills of Chinese Pinyin learning in Experimental Group was growth being faster than the Control Group. However, the listening skill of Chinese Pinyin learning was similar growth rate and grew slow in two groups.

4.3 Analysis of Questionnaire to Find Out the Satisfaction of Primary4 Students in Chinese Pinyin Learning through Blended Learning

4.3.1 Scores of Satisfaction of each Student

The second objective of the study was to estimate the satisfaction of Primary 4 students from the five points Likert Scale.

Table 4.8 the Satisfaction of Primary 4 Students through Use the Blended Learning in

Chinese Pinyin Learning in Experimental Group

Number	I-1	I-2	I-3	I-4	I-5	I-6	I-7	I-8	I-9	I-10	Т	%
1	5	4	4	5	4	5	4	5	4	4	44	88
2	4	4	4	5	4	5	4	5	4	4	43	86

	Chinese Pinyin Learning in Experimental Group (Cont.)												
3	5	4	4	4	4	5	5	4	4	4	43	86	
4	5	4	4	4	4	5	4	4	5	5	44	88	
5	4	5	4	4	4	5	5	5	5	5	46	92	
6	5	4	4	5	5	5	4	5	4	5	46	92	
7	5	4	5	4	4	5	4	4	4	5	44	88	
8	5	5	4	4	4	5	5	5	5	5	47	94	
9	4	5	4	4	5	4	4	5	5	5	45	90	
10	4	5	4	4	4	5	5	5	4	5	45	90	
11	4	5	4	4	5	4	5	5	5	4	45	90	
12	5	4	5	5	4	5	5	4	4	5	46	92	
13	5	4	4	5	4	5	5	4	4	5	45	90	
14	5	4	4	5	5	5	5	5	5	5	48	96	
15	5	4	5	5	5	4	4	4	5	5	46	92	
16	4	5	5	4	4	5	4	5	4	5	45	90	
17	5	5	4	4	4	4	5	5	5	5	46	94	
18	5	4	5	5	4	5	4	5	4	4	45	90	
19	5	4	5	4	5	5	5	4	5	4	46	92	
20	5	4	5	4	4	5	4	5	5	5	46	92	
21	5	4	5	4	4	5	5	5	4	5	46	92	
22	5	5	4	5	4	5	4	5	4	5	46	92	
23	5	5	5	4	4	5	4	4	5	5	46	92	
Т	109	101	101	101	98	111	103	107	103	109			
%	94.8	87.8	87.8	87.8	85.2	96.5	89.6	93	89.6	94.8	90.	7%	

Table 4.8 the Satisfaction of Primary 4 Students through Use the Blended Learning in

(Item = I, 5 = Strongly Agree, 4 = Agree, 3 = Normal, 2 = Disagree, 1 = Strongly Disagree, T=total) ^{้ยา}ลัยรังสิต

Table 4.8 shows the total satisfaction of application of blended learning in Chinese Pinyin learning is 90.7% in experimental group. I-1 shows the satisfaction of using the blended learning in learning how to use Chinese Pinyin is 94.8% in experimental group. I-2 shows the satisfaction of the blended learning can help the Primary 4 students remembering the Chinese initials is 87.8% in experimental group. I-3 shows the satisfaction of the blended learning can help the Primary 4 students remember the Chinese finals is 87.8% in experimental group. I-4 shows the satisfaction of the blended learning can help Primary 4 students read the Chinese tones is 87.8% in experimental group. I-5 shows the satisfaction of the blended learning can help the

Primary 4 students spell the Chinese Pinyin is 85.2% in experimental group. I-6 shows the satisfaction of the blended learning can help Primary 4 students improve their pronunciation in Chinese Pinyin is 96.5% in experimental group. I-7 shows the blended learning is interesting in learning Chinese Pinyin is 89.6% in experimental group. I-8 shows the satisfaction of students agree that blended learning can improve their Chinese level is 93% in experimental group. I-9 shows the satisfaction of the students agree with the blended learning in Chinese learning interesting is 89.6%. I-10 shows the students agree with the blended learning give their confidence to learn Chinese is 94.8%.

4.3.2 Analysis the Satisfaction of the Total Scores of each Item



From figure 4.5 and Figure 4.6 illustrate the details for the Table 4.8.

Figure 4.5 the Satisfaction of the Total Scores of each Item in Experimental Group

Figure 4.5 illustrates the satisfaction of total scores of each item of experimental group. Item 1 describes the satisfaction of the total scores of the using the blended learning in learning how to use Chinese Pinyin is 109. Item 2 describes the

satisfaction of the total scores of the blended learning can help the students remember the Chinese initials is 101. Item 3 describes the satisfaction of the total scores of the blended learning can help the students remember the Chinese finals is 101. Item 4 describes the satisfaction of the total scores of the blended learning can help the students remember the Chinese tones is 101. Item 5 describes the satisfaction of scores of the blended learning can help the students remember the Chinese Pinyin is 98. Item 6 describes the satisfaction of total scores of the blended learning can help the students improve their pronunciation in Chinese. Item 7 describes the satisfaction of the total scores of the blended learning can improve the students⁻ Chinese level is 107. Item 9 describes the satisfaction of the total scores of the blended learning is interesting in learning Chinese that is 103. Item 8 describes the satisfaction of the total scores of the blended learning can improve the students⁻ Chinese level is 107. Item 9 describes the satisfaction of the total scores of the total scores of the blended learning can improve the students⁻ Chinese level is 107. Item 9 describes the satisfaction of the total scores of the blended learning in Chinese learning is interesting that is 103. Item 10 describes the satisfaction of the total scores of the blended learning give the students' confidence to learn Chinese is 109.



Figure 4.6 the Satisfaction Percent of each Item and the Average Satisfaction

Figure 4.6 illustrates the average satisfaction percentage of Experimental group was 90.70% in the experimental group. Item 1 describes the satisfaction percent of the using the blended learning in learning how to use Chinese Pinyin is 94.8%. Item 2 describes the satisfaction percentage of the blended learning can help the students remember the Chinese initials is 87.8%. Item 3 describes the satisfaction percent of the blended learning can help the students remember the Chinese finals is 87.8%. Item 4 describes the satisfaction percent of the blended learning can help the students remember the Chinese tones is 87.8%. Item 5 describes the satisfaction percent of the blended learning can help the students remember the Chinese Pinyin is 85.2%. Item 6 describes the satisfaction percent of the blended learning can help the students improve their pronunciation in Chinese is 96.5%. Item 7 describes the satisfaction percent of the blended learning is interesting in learning Chinese that is 89.6%. Item 8 describes the satisfaction percent of the blended learning can improve the students' Chinese level is 93%. Item 9 describes the satisfaction percent of the blended learning in Chinese learning is interesting that is 89.6%. Item 10 describes the satisfaction percent of the blended learning give the students' confidence to learn Chinese is 94.8%.

Moreover, from Table 4.7 also shows that satisfaction percentage of each student in the experimental group got the Figure 4.7 as below.



Figure 4.7 Satisfaction Percentage of each Student in the Experimental Group

Figure 4.7 illustrates each student's satisfaction of application of blended learning in Chinese Pinyin learning in experimental group. The students preferred mostly to use Blended Learning in Chinese learning in this study.

4.4 Conclusion

In this chapter, the researcher reported on the results of data analysis. In the next chapter, the researcher reports on the conclusion, discussions, and recommendations for future researchers.



CHAPTER 5

CONCLUSION, DISCUSSION, AND RECOMMENDATIONS

This chapter completes the findings from the study results on the data analysis in chapter 4, followed by discussions on the findings. Finally, the researcher includes the recommendations for further study in the field. There are two objects of this study and the researcher present explanation for each objective as below.

5.1 Conclusions

In this study, the application of the Blended Learning approach was done in a quantitative research approach. A pretest and posttest method were conducted in this research, using the Blended Learning in comparing experimental and control groups in Thailand. The research tools were a set of a pretest and posttest containing 32 questions each and a questionnaire containing 10 questions. The four sections of the pretest and posttest are listing as following.

1) In the pretest and posttest questions one to ten were section A that was measured the listening skill of students in Chinese Pinyin,

2) The questions eleven to twenty were section B that was measured the reading skill of students in Chinese Pinyin,

3) The questions twenty-one to twenty-two were section C that was measured the speaking skill of students in Chinese Pinyin,

4) The questions twenty-three to thirty-two were section D that was measured writing skill of students in Chinese Pinyin.

In addition, the questions of questionnaire were assessed the satisfaction of students in learning Chinese Pinyin through the Blended Learning. The research objectives were mentioned before in an earlier part of the Chapter 1 as below.

5.1.1 Research Question One

What is the learning achievement of Blended Learning approach compare to traditional technology of Primary 4 students in Learning Chinese Pinyin?

Based on the results of the data analysis and research findings, the research concluded that the students of the experimental group and the control group were found to have relatively equal Chinese Pinyin level knowledge before getting the treatment. As Table 4.2 shows clearly through the pretest result of both the groups done before the treatment, the result of the pretest scores of experimental and the control groups were 0.00, that means the Primary 4 students control group and experimental group were the same level beginner learns learning Chinese Pinyin.

In addition, as Table 4.3 shows the mean scores of posttest in experimental group was 24.54 with the standard deviation of 4.83 (\overline{X} = 24.54, SD=4.83); whereas the mean scores of posttest in control group was 15.90 with the standard deviation of 5.69 (\overline{X} =15.9, SD=5.69). The mean difference of the two groups was 8.65 (MD = 8.65). The t-value was 5.33 with the p-value was 0.00 (p < 0.05). Moreover, the Table 4.4 shows the pretest mean scores of the experimental group before the treatment was 0.00 with the standard deviation of 0.00, and the mean scores after the treatment was 24.54 with the standard deviation of 4.83. The difference of the mean scores of the pretest and the posttest of the experimental group was analyzed through the paired t-test. The analysis shows that the participants in the experimental group scored higher in the posttest to compare to the pretest scores. The t-value was -24.38 with the p-value was 0.00 (p<0.05). In addition, the Table 4.5 shows the pretest mean scores of the experimental group before the treatment of 0.00, and the mean scores of the experimental group before the treatment deviation of 0.00, and the mean scores of the pretest mean scores of the scores. The t-value was -24.38 with the p-value was 0.00 (p<0.05). In addition, the Table 4.5 shows the pretest mean scores of the experimental group before the treatment was 0.00 with the standard deviation of 0.00, and the mean scores of the mean scores of the experimental group before the treatment was 0.00 with the standard deviation of 0.00, and the mean scores after the traditional teaching method was 15.90 with the standard deviation of 5.69. The difference of the mean scores of the pretest and the

posttest of the control group were analyzed through the paired t-test. The analysis shows that the participants in the control group scored higher in the posttest to compare to the pretest scores. The t-value was -12.19 with the p-value was 0.00 (p<0.05). Therefore, from Table 4.3 to 4.5 data analysis can be concluded through using Blended Learning approach in Chinese Pinyin learning in the classroom that it improved the achievement of students better and faster than the traditional teaching method.

In addition, the Table 4.6 shows the achievements growth rate of Chinese language four skills from pretest to posttest in the Experimental group, and Table 4.7 shows the achievements growth rate of Chinese language four skills from pretest to posttest in the Control Group. The Figure 4.4 shows the achievements growth rate both of the Experimental Group and the Control Group. The Figure 4.4 shows the reading, speaking and writing skills of Chinese Pinyin learning in Experimental Group was growth being faster than the Control Group. However, the listening skill of Chinese Pinyin learning was similar growth rate and grew slow in two groups.

5.1.2 Research Question Two

Will the students in Experimental Group be satisfied with the application Blended Learning in Chinese Pinyin learning?

The positive effectiveness of using the Blended Learning in the Chinese Pinyin learning was prove by the high satisfactory of students toward the Blended Learning combined teaching method of this study. As Table 4.8 in chapter 4 shows the satisfaction of Primary 4 students in Bangkok, who are the beginners learn Chinese applied the Blended Learning approach. This study finding supports the statement of Jing (2010), who viewed that the Blended Learning meets student's expectations for utilizing technology, develops independent learning skills, and offers increased flexibility and convenience. For the school that gives them access to new resources, it is an opportunity for school development and lets them experiment with new pedagogy and techniques, helps meet student expectations and build student skills, allows for more flexible scheduling, and retains the face to face aspect faculty may cherish. Application of Blended Learning in Chinese learning can inspire and make students enthusiastic to learn in class (Jing, 2010).

As summarized in Table 4.8 in chapter 4 and in Figure 4.5-4.7 in chapter 4, the average satisfaction of the Primary 4 students in learning Chinese Pinyin through Blended Learning in experimental group was 90.7%. Thus, the students of Primary 4 students satisfied with the application of Blended Learning in Chinese Pinyin learning.

5.2 Discussion

The goals of the study were to find out the learning achievement of Blended Learning approach compared to traditional technology in Chinese Pinyin learning of Primary 4 students at a private school in Bangkok. In addition, the findings through the quantitative analysis on the students' Chinese Learning an achievement were significantly improved by Blended Learning.

Blended Learning has the potential to solve the problem in different ways according to different problems and requirements, and adopt different ways of media and information transmission in Chinese education. Blended Learning includes mixed types, mainly in multimedia teaching and virtual learning environment centered on mobile technology can inspire students learning Chinese (Zhao and Yao, 2013). As mentioned before, in the Table 4.3, the application of Blended Learning in this study improved students Chinese Pinyin learning achievement in experimental group by 20.5% more than in the control group in the classroom.

The achievements of Chinese Language four skills show that mostly, Pinyin Learning of reading, speaking and writing was growth faster in the experimental group than in the control group in Thailand in this study. In the early of knowledge explosion, students' learning can no longer rely solely on the teachers' delivery of knowledge and skills (Yeung, 2003), but instead need to explore for themselves. They need to be able to work independently. However, the results of the present study show that students in

the Experimental Group do not seem to be able to do so as well as their listening skill in the Control Group. It was found that Figure 4.4 also shows through Chinese pinyin learning in the experimental group and the control group, Chinese pinyin could improve learners' ability to speak and read Pinyin in a short period. The Experimental Group using the Blended Learning method was faster than the control group. This has a positive effect on foreign beginners who are learning Chinese and can obtain more self-confidence and self-affirmation and enhance beginners' interest in learning. In this study, Chinese as the second language learning that the Pinyin is pretty improvement a student's speaking, and reading very fast in both of two groups.

The using of sound media for Chinese Pinyin learning through reading, recording and comparing sounds for students starting from 0 to 4 years can help to correct pronunciation (Wang, 2011). The Table 4.6 and Figure 4.4 show that through the Blended Learning the Primary 4 students' speaking and reading skills in the experimental group were improvement more than listening and writing skills. The use of graphic media of Blended Learning in Chinese learning to teach vocabulary, has a strong intuitive (Li, 2014), can avoid some of the students cause of the weak foundation in English so that they can understand the Chinese meaning of words and explain in English (Sun, 2010). Teaching technique was used in the Experimental Group to improve the students' achievement that was higher than the Control Group, but if the Control Group gets high techniques the same as the Experimental Group, they might have gained the better results as well.

Through the Blended Learning in Chinese Pinyin learning in the experimental group satisfaction survey, it could be seen that beginners, especially younger beginners, prefer color-rich Blended Learning and interactive multimedia television learning. Moreover, through the face-to-face teaching of teachers in the classroom, younger learners could be guided to learn in a timely manner. In addition, in the classroom, the educators can answer students' puzzles in a timely manner. Therefore, the students of the experimental group mostly gave the high scores of satisfactions through the Blended Learning in Chinese Pinyin learning in this study.

Blended Learning described an e-learning system for technical Chinese learning that integrates sounds, pictures, videos, and Flash animation into a Web-based multimedia course to optimize learning efficiency and an organic combination of traditional face-to-face classroom teaching and network teaching, it is a model of integration of information technology and curriculum (Han and Zhang, 2017). As mentioned before, the application of Blended Learning in this study that most students like utilized Blended Learning in Chinese learning in the classroom.

5.3 Recommendations

5.3.1 Recommendations for Schools, teachers and Students

This study found out that the application of Blended Learning was helpful as following.

1) The application of Blended Learning can motivate students to learn better Chinese language.

2) The application of Blended Learning with specific teaching methods can help enhance Chinese learning of the students.

3) This study proved the hypothesis that Blended Learning does truly help students to develop their Chinese Pinyin Learning to result in higher level Pinyin achievement.

4) Likewise, for the students, visualization and vocalization of the Chinese curriculum books can be made more interesting and more impressive in Chinese classroom.

5) In addition, for the teachers, the positive response from the students can give teachers more teaching achievement. Therefore, the teaching method of Blended

Learning is applied to Chinese as a second language learning can stimulate Chinese learners' active learning better and is beneficial to the promotion of Chinese learning.

6) Moreover, Blended Learning cannot only improve students' academic achievement, but also can improve students' self-confidence in learning and teachers' sense of teaching achievement.

5.3.2 Recommendations for Future Researchers

The findings of this study would serve as a reference for future studies and educators to carry out studies on the similar field of teaching and learning Chinese language as second language learning or in some small schools in the other areas. The researcher hops some recommendations for future researchers are as follows.

1) The researcher recommends for a future study to have more samples from Chinese learners, not only have primary students of educational area, but also have other different levels of Chinese language learners' areas.

2) In the future, the researchers can use Blended Learning to study Chinese Grammar Learning, Chinese Characters Learning, Chinese Oral Learning, and other Chinese Language Learning.

3) In addition, the educators can also study more and better Chinese as the Second Language Learning software that can be used on mobile devices and Blended Learning in the future.4) In the future research, the researcher can study on students' genders in order to differentiate the effectiveness of the Chinese learning ability between boys and girls.

4) In the future research, the researcher can study on students' gender in order to differentiate the effectiveness of the Chinese Learning ability between boys and girls.

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APPENDIX A

RANGSIT UNIVERSITY LETTER OF APPROVAL REQUEST





Mr. Francois Blake Foreign Coordinator Sarasas Witaed Saimai School Date: 29 August 2017

Subject: Request for Permission to Collect Data for M.Ed. Thesis

Dear Mr. Francois Blake,

The Faculty of Education for the M. Ed. Program in Bilingual Education, Rangsit University would like to request your permission for Heyi Shu (Helly Shu), Student ID: 5907047, an M.Ed. candidate on her final year to collect data in your Program from the period of I September- 31 October 2017.

Thank you for your kind consideration.

Truly yours,

Anchalee Chayanuvat , Ed.D.

Assistant Professor

Dean

Faculty of Education

Rangsit University Muang-Ake. Paholyothin Road Lakhok, Pathumtani 12000 THAILAND

Tel +662-997-2222 ext 1275, 1276 Fax +662-997-2222 ext 1277 cell Phone +668-01-255-7983

APPENDIX B

VALIDITY ASSESSMENT FROM EXPERTS


	Index of Item Objective Congruence (IOC)			
"Application of Bl	ended Learning in Chinese Pinyin Learning of Prim	nary 4	Stud	ents
	at a Private School in Bangkok "			
The expert is re	quested to examine each item of the research	E	xper	ts
ir	nstrument for its content validity	R	evie	w
(A)	gree=A, Not Sure=N, Disagree=D)			
Туре	Pretest and Posttest	А	Ν	D
		+1	0	-1
Application Protost and	1. Listen to the initial of Pinyin "zh"			
Posttest	2. Listen to the initial of Pinyin "h"			
Questions 1-34	3. Listen to the initial of Pinyin "q"			
Consist of Listening: 1-10	4. Listen to the initial of Pinyin "g"			
Reading: 11-20	5. Listen to the initial of Pinyin "r"			
Speaking: 21-22	6. Listen to the final of Pinyin "eng"			
And Writing: 23- 34	7. Listen to the final of Pinyin "ei"			
	8. Listen to the final of Pinyin "ong"			
	9. Listen to the final of Pinyin "ai"			
	10. Listen to the final of Pinyin "ue"			
	11. Read the Pinyin "jiào"			
	12. Read the Pinyin "qián"			
	13. Read the Pinyin "niǎo"			
	14. Read the Pinyin "cè"			
	15. Read the Pinyin "zhě"			

Index of Item Objective Congruence: Application Pretest and Posttest

	16. Read the Pinyin "guāi"			
	17. Read the Pinyin "xióng"			
	18. Read the Pinyin "què"			
	19. Read the Pinyin "huáng"			
	20. Read the Pinyin "rǎn"			
	21. Conversation of greeting at the class begin.			
	22. Conversation of greeting at the class over.			
	23. Write the Pinyin for character "—".			
	24. Write the Pinyin for character " $_$ ".			
	25. Write the Pinyin for character "三"			
	26. Write the Pinyin for character "六".			
	27. Write the Pinyin for character "七".			
1	28. Write the Pinyin for character "八".			
22	29. Write the Pinyin for character "四".			
2	30. Write the Pinyin for character " $\overline{\Xi}$ ".			
	31. Write the Pinyin for character "九".			
	32. Write the Pinyin for character " $+$ ".			
	33. Write the Pinyin for character "你".			
	34. Write the Pinyin for character "好".			
The Pinyin from q	uestion 1-34 were selectively chosen from curricu	ulum in	first	
semester of 2017	academic year			
	academic year.			

Item Number	Expert 1	Expert 2	Expert 3	IOC
1	1	1	1	1
2	1	1	1	1
3	1	1	1	1
4	1	1	1	1
5	1	1	1	1
6	1	1	1	1
7	1	1	1	1
8	1	1	1	1
9	1	1	1	1
10	1	1	1	1
11	1	1	1	1
12	1	1	1	1
13	1	1	1	1
14	1	1	1	1
15	1	1	1/S 1	1
16	1	1		1
17	men 1		1	1
18	้ จยรังสิ	A RONGS'	1	1
19	1	1	1	1
20	1	1	1	1
21	1	1	1	1
22	1	1	1	1
23	1	1	1	1
24	1	1	1	1
25	1	1	1	1
26	1	1	1	1
27	1	1	1	1

IOC Pretest and Posttest of Experts' Assessment

28	1	1	1	1
29	1	1	1	1
30	1	1	1	1
31	1	1	1	1
32	1	1	1	1
33	1	1	1	1
34	1	1	1	1
IOC=		1		



	Index of Item Objective Congruence (IOC)						
"Application of	"Application of Blended Learning in Chinese Pinyin Learning of Primary 4 Students						
	at a Private School in Bangkok "						
The expert is r	equested to examine each item of the research	E	xpert	:s			
i	nstrument for its content validity	F	Reviev	N			
(4	gree=A, Not Sure=N, Disagree=D)						
Lesson Plan	Pretest and Posttest		Ν	D			
		+1	0	-1			
1	Chinese Initials Part 1						
2	Chinese Initials Part 2						
3	Chinese Initials Part 3						
4	Chinese Initials Part 4						
5	Chinese Finals Part 5						
6	Chinese Finals Part 6						
7	Chinese Finals Part 7						
8	Chinese Finals Part 8						
9	Chinese Tones Part 1						
10	Chinese Tones Part 2						
11	Chinese Tones Part 3						
12	Chinese Numbers						

Index of Item Objective Congruence: Application Lesson Plans

Item Number	Expert 1	Expert 2	Expert 3	IOC
1	1	1	1	1
2	1	1	1	1
3	1	1	1	1
4	1	1	1	1
5	1	1	1	1
6	1		1	1
7	1	1	1	1
8	1	1	1	1
9	1	1		1
10 4	1	1	1	1
11	nel large	1 Deposit	<u> </u>	1
12	1 4 5 88	IN RAINS	1	1
IOC=		1		

IOC Lesson Plans of Experts' Assessment

	Index of Item Objective Congruence (IOC)					
"Application	of Blended Learning in Chinese Pinyin Learning of	Primary	/ 4 Stu	dents		
	at a Private School in Bangkok "					
The expert is	requested to examine each item of the research	E	xpert	s		
	instrument for its content validity	-		-		
((Agree=A, Not Sure=N, Disagree=D)					
Lesson Plan	Pretest and Posttest	А	Ν	D		
		+1	0	-1		
	1. You like using the blend learning in learning					
the	how to use Chinese Pinyin.					
Satisfaction	2. The blended learning can help you					
of	remember the Chinese initials.					
Primary 4	3. The blended learning can help you					
Learning	remember the Chinese finals.					
Chinese	4. The blended learning can help you read the					
Pinyin 9	Chinese tones.					
Blended	5. The blended learning can help you spell the					
Learning	Chinese Pinyin.					
	6. The blended learning can help you improve					
	your pronunciation in Chinese.					
	7. The blended learning is interesting in					
	learning Chinese.					
	8. You agree that the blended learning can					
	improve your Chinese level.					
	9. You agree with the blended learning in					
	Chinese learning interesting.					
	10.You agree with the blended learning give you confidence to learn Chinese.					

Index of Item Objective Congruence: Application Questionnaires

Item Number	Expert 1	Expert 2	Expert 3	IOC	
1	1	1	1	1	
2	1	1	1	1	
	1	1	1	1	
4	1	1	1	1	
5	1	1	1	1	
6	1		1	1	
7	1	1	1	1	
8	1	1	1	1	
9	1	1	1	1	
10 4	1	1	FS.	1	
	12398	AN KOUS			

IOC Questionnaires of Experts' Assessment

Index of Item Objective Congruence (IOC)						
"Application of	Blended Learning in Chinese Pinyin Learning o	f Prii	mary	/ 4 St	ude	nts
	at a Private School in Bangkok "					
The expert	is requested to examine each item of the		E	xper	ts	
resear	ch instrument for its content validity		R	evie	w	
(Strongly Ag	gree=SA, Agree=A, Normal=N, Disagree=D,					
	Strong Disagree=SD)			-		
Туре	Questionnaire	S	А	Ν	D	S
		<u>A</u> 5	4	3	2	1 1
	1. You like using the blend learning in					
	learning how to use Chinese Pinyin.					
	2. The blended learning can help you					
	remember the Chinese initials.					
	3. The blended learning can help you					
To Find out	remember the Chinese finals.					
Satisfaction	4. The blended learning can help you read					
of 🖌	the Chinese tones.					
Primary 4	5. The blended learning can help you spell					
students in	the Chinese Pinyin.					
Learning	6. The blended learning can help you					
Chinese Pinvin	improve your pronunciation in Chinese.					
through	7. The blended learning is interesting in					
Blended	learning Chinese.					
Learning	8. You agree that the blended learning can					
	improve your Chinese level.					
	9. You agree with the blended learning in					
	Chinese learning interesting.					
	10.You agree with the blended learning give					
	you confidence to learn Chinese.					

The Cronbach's Alpha of Item Reliability: Application Questionnaire

Item Number	Expert 1	Expert 2	Expert 3
1			
2			
3			
4			
5	0.9	0.9	0.9
6			0.0
7			
8			
9			
10 4		ersit.	
A=	SMELDE	0.9	
	<i>่ลยรัง</i> สิต	Rangs	

The Cronbach's Alpha Questionnaire of Experts' Assessment



To committees: Date: 5 July 2017 Subject: Data collection instruments are validated by three experts for M.Ed. Thesis

Dear committees:

This is to certify that the data collection instruments of Chinese Pinyin are validated by three experts who are the academic persons in a private school which the name is Sarasa Witaed Saimai School in Bangkok, Thailand.

Hereby certified.

Truly yours,

Experts Signature:

DAM Sissalt

Shu Heyj

de

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The Au

APPENDIX C

SAMPLES OF CURRICULUM BOOK: CHINESE TIME







	ði a	00. O	600 е	e i	eru	lo ai	60E) ei	เตา ao	loð ou
b	ba	bo		bi	bu	bai	bei	bao	
p	ра	ро		pi	pu	pai	pei	pao	pou
m IN 0	ma	mo	me	mi	mu	mai	mei	mao	mou
f	fa	fo			fu		fei		fou
d	da		de	di	du	dai	dei	dao	dou
t	ta		te	ti	tu	tai		tao	tou
n	na		ne	ni	nu	nai	nei	nao	nou
1	la		le	li	lu	lei	lei	lao	lou

(三) 声母、韵母拼读 Combinations of initial and final sounds

(四) 声调 tone



CCB + F ionguculesia

汉语普通话有四个基本声调 - (第一声)、 ´ (第二声)、 [×] (第三声)、 [×] (第四声)。

Mandarin Chinese has four basic tones: first tone, second tone, third tone and forth tone.



辅音叫声母,其余的部分是韵母,声调标在韵母的 上方。

Syllables in Chinese Mandarin consist mostly of initials, finals and tones, but the few syllables without initials are called zero initials. An initial is a consonant that begins a syllable, the rest of them are finals and tones which are placed over finals.

就的的pinyi	o
汉语字母表	Chinese alphabet

字母	国际音标	字母	国际音标
Αa	[a]	Nn	[n]
Bb	[p]	00	[o]
Сс	[ts']	Рр	[p]
Dd	[t]	Qq	[ť']
Ee	[ɣ]	Rr S	[z]
Ff	[f]	Ss	[s]
Gg E	[k]	STT	[t']
Hh	KIN R	Uu	[u]
Ii	[i]	Vv	[v]
Jj	[t \$]	Ww	[w]
Kk	[k']	Xx	[2]
Ll	[1]	Yy	[j]
Mm	[m]	Zz	[ts]

P



2、拼写规则 Rules of phonetic spelling
现代汉语的音节是由声母和韵母相拼得到的。
当"i""u"自成音节时,分别写成"yi"
和"wu"。

The Contemporary Chinese syllable is the combination of initials and finals. "y" and "w" are added to fully vocalic "i", "u", when these occur without an initial consonant, they are written "yi", "wu".

3、声调 tones



汉语普通话有四个基本声调: -(第一声)、 (第二 声)、 (第三声)、 (第四声)。声调不同, 表达 的意义不同。

Mandarin Chinese has four basic tones: first tone, second tone, third tone, forth tone. The meaning of expression is different according to different tones. 标调规则: rules of tone mark

(1) 声调符号一般要标在一个音节的主要元音上。

The tone mark is usually placed over the main vowel.

例如: lái dào léi dá

(2) 调号恰巧标在 i 的上面, 那么 i 上的小点要省去。 If the tone is written over an i, the tittle above the i is omitted, as in yi.





(2) d-t dù—tù dī—tī de—tè dă—tā tǔ dòu tè dì dăi—tái dào—tāo (3) n−l nĭ—lí nào—lào ná—lā năi—lái ná lái 2、声调练习 tones practice (1) 一、四声练习 pī lòu pāi mài mí lù dì tú nèi yī (2) 二、四声练习 1 fú wù lái dào léi dá nữ lì bó fù bù fú (3) 一、二声练习 máo yī fā dá fā dāi pí fū a yí fā fú 3、听老师读,给下列音节标声调。 Listen to the teacher, then place the tone mark below. (2) lao (3) bi (1) ba (4) bu (5) bao (6) po (7) pi (8) pu (9) mi lu (10) pi fu (11) mi (12) mu 4、听老师读,把你听到的音节圈出来,比比谁做对 的多。 14

Listen to the teacher, then circle the syllables that you hear. Compete with your partner.

(1)bā—bō	(2) bù—bō	(3) pā—bā
(4) pō—bō	(5)mão—nào	(6) pù—pò
(7)mā—mō	(8) dù—tù	(9)fā—fù

5、写出下面音节的声母和韵母,并在韵母上标出要求的调号。

Write down the initials and finals, then place the tone mark as required.

(1) bo→ () + () [第一声] (2) bi→ () + () [第三声] (3) bao→ () + () [第一声] (4) pa→ () + () [第一声] (5) po→ () + () [第四声] (6) pi→ () + () [第二声] 6、老师和学生用"你好"互相问候。

Learn to greet with hello in Chinese.

7、熟读本课所学的声母和韵母,并熟练书写生字。 Read the initials and finals thoroughly, and write new characters.

APPENDIX D

INSTRUMENT OF CHINESE PINYIN PRETEST AND POSTTEST



Pretest

International Program Year 4

Student's Name:

Gender (M/ F): _____ Age: _____ No.:

Sections	Score A	Score B	Score C	Score D	Total
scores					

Section A	1:	2:	3:	4:	5:
Listening	6:	7:	8:	9:	10:

Section B	jiào	qián	niǎo	Level 1	Level 2
Reading:	cè	zhě	guāi	Level 3	Level 4
Spen Pinyin	xióng	què	huáng	rǎn	Level 5

	198	ไวงสิต	Rany			
Section C	Speaking1	Level 1	Level 2	Level 3	Level 4	Level 5
	Speaking2	Level 1	Level 2	Level 3	Level 4	Level 5

Section D	— :		Ξ
Write			
Pinyin	六:	七:	八:
	四:	五:	九:
	+:	你:	好:

Posttest

International Program Year 4

Student's Name:

Gender (M/ F): _____ Age: ____ No.:

Sections	Score A	Score B	Score C	Score D	Total
scores					

Section A Listening	1:	2:	3:	4:	5:
21000011110	6:	7:	8:	9:	10:

Section B	jiào	qián	niǎo	Level 1	Level 2
Reading:	cè	zhě	guāi	Level 3	Level 4
Spen Pinyin	xióng	què	huáng	rǎn	Level 5
22°					

	198	ไวงสิต	Rany			
Section C	Speaking1	Level 1	Level 2	Level 3	Level 4	Level 5
	Speaking2	Level 1	Level 2	Level 3	Level 4	Level 5

Section D	— :	<u> </u>	Ξ
Write	六:	七:	八:
Pinyin	四:	五:	九:
	+:	你:	好:

Pretest and Post-test Answers

Sections	А	В	С	D	Total
scores	10	10	10	12	42

Section A	1:zh	2:h	3:q	4:g	5:r
Listening	6:péng	7:měi	8: kòng	9:shāi	10:xué

Section B	jiào	qián	niǎo	Level 1	Level 2
Reading:	cè	zhě	guāi	Level 3	Level 4
Spell Pillyill	xióng	què	huáng	rǎn	Level 5

Section C	Spe <mark>aking1</mark>	Level 1	Level 2	Level 3	Level 4	Level 5
	Speaking2	Level 1	Level 2	Level 3	Level 4	Level 5
	Le l			S.		

1. 73	2.
Greeting at the class begin in Chinese.	Greeting at the class over in Chinese.
T: Shàngkè。	T:Xiàkè。
S: Hǎolema? Shǒufàngyìqǐ, lǎoshīnǐhǎo!	S: Hǎolema? Shǒufàngyìqǐ, xièxielǎoshī,
T: Tóngxuémenhǎo, shǒuqǐngfàngxià!	,lǎoshīzàijiàn!
S: Xièxie lǎoshī !	T:Tóngxuémenzàijiàn !

Section D	— : уī	二 : èr	三 : sān
Write	六:liù	七:qī	八:bā

Pinyin	四:sì	五:wǔ	九:jiǔ
	+∶shí	你:nǐ	好:hǎo



APPENDIX E

SAMPLE OF RESEARCH QUESTIONNAIRES



Questionnaire

International	Program	Year
Inter matroman	og - ann	1

Student's Name:

Gender (M/F): _____ Age: _____ No.: _____

Please mark "X" the blank how you agree or disagree with the following sentences.

(5 = Strongly Agree, 4 = Agree, 3 = Normal, 2 = Disagree, 1= Strongly Disagree)

Items	Strongly	Agree	Normal	Disagre	Strongly
	Agree				Disagree
1. You like using the blend learning		8			
in learning how to use Chinese Pinyin					
2. The blended learning can help you remember the Chinese initials.					
3. The blended learning can help you remember the Chinese finals.					
4. The blended learning can help you read the Chinese tones.			' Sity		
5. The blended learning can help you spell the Chinese Pinyin.			2		
6. The blended learning can help you improve your pronunciation in Chinese.	Rang				
7. The blended learning is interesting in learning Chinese.					
8. You agree that the blended learning can improve your Chinese level.					
9. You agree with the blended learning in Chinese learning interesting.					
10. You agree with the blended learning give you confidence to learn Chinese.					
Total					
Summary					

BIOGRAPHY

NAME	SHU HEYI
DATE OF BIRTH	June 12, 1982
PLACE OF BIRTH	Chengdu, China
INSTITUTION ATTENDED	Southwest University for Nationalities, China
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